DOCUMENT RESUME

ED 168 393 HE 011 043

AUTHOR Michalak, Craig L., Ed.
TITLE Managing Tomorrow's University.
PUB DATE Sep 77
NOTE 156p.; Proceedings of the University of California Academic Business Officers' Conference (9th, Asilomar, California, April 3-6, 1977)

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS Administrative Personnel; *Administrator Role; Budgeting; *College Administration; *Educational Finance; *Employer Employee Relationship; Financial Support; Government Role; Government School Relationship; Higher Education; Library Role; *Management Information Systems; Needs Assessment
IDENTIFIERS Long Range Planning

ABSTRACT

The issues addressed in this conference report concern budgeting, the resourceful manager, extramural funding, employer-employee interaction, management information systems, and management of the university in the future. Contents include: the keynote address by F. E. Balderston; "University Budgeting in an Era of Scarce Resources," by F. M. Bowen and S. O. Archibald; "The University Administrator--Images and Imaging," by C. Kovach; "The Library's Role in the Support of Academic Departments," by S. C. Michalak; "Current Literature in Management;" "University and College Management--A Bibliography;" "Management for Academic Business Officers--A Bibliography;" "Federal-University Relationships--A Changed Environment," by N. H. Gross; "Federal Audit Problems," by J. A. Perkins; "Queen Victoria's Chair," by J. H. Stanford; a discussion on extramural funding; "Myths and Realities of Health and Adjustment to Work," by P. M. Lewis; "Dynamic Followership in a Leadership-Oriented World," by W. J. Crocket; "Long Range Personnel Planning," by A. Kleingartner; "The Office of the General Counsel," by J. L. Cowan, Jr.; "Information Systems," by B. Sisco; "A Conceptual Framework for a University Information Systems Plan;" "Strategy for Achieving the Conceptual Framework;" "Information Management--Needs Assessment," by R. West; "One Campus' Approach," by F. J. Bailey; and "Putting It All Together: Integrative Thoughts and Actions in the Management of Unmanageable Systems," by F. Massarik. (SW)

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MANAGING TOMORROW'S UNIVERSITY

Proceedings of the 1977
UNIVERSITY OF CALIFORNIA
ACADEMIC BUSINESS OFFICERS CONFERENCE

Edited by
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HE 011 043

Library of Congress Catalog Card Number: 77-78731
Printed in the United States of America

Published by the
University of California
Academic Business Officers
September, 1977

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PREFACE

The Ninth Annual Conference of the University of California Academic Business Officers was held in Asilomar, California, from April 3-6, 1977.

The theme of this year's Conference was "Managing Tomorrow's University," with the program covering various subjects of interest to academic departmental administrators. The goal of the Conference was to develop more knowledgeable leaders to help manage the University.

We attempted to use, wherever possible, members of the University community as speakers since there are available, within our own institution, many of the finest educators and researchers in the nation.

Participants were chosen by the Steering Committee to represent all nine University of California campuses. This publication represents an effort to make the content of the meeting available to a wider University audience.

The editorial policy of this volume required many of the presentations to be partly rewritten from transcriptions. In almost all instances, authors had an opportunity to approve changes that were made. Opinions expressed in the papers are those of the authors.

Craig L. Michalak
Riverside, California

1977 University of California Academic Business Officers Conference

MANAGING TOMORROW'S UNIVERSITY

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1977 University of California Academic Business Officers Conference

MANAGING TOMORROW'S UNIVERSITY

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At the beginning of the Conference, Steven Frye, M.D., led a brief discussion on "The Psychological Implications of Managing Tomorrow's University" which is not included in this volume.

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Introduction
MANAGING TOMORROW'S UNIVERSITY

The role of the university in society is that of the educator, the researcher, and the community servant. These activities fulfill the traditional mission of the university—to teach the historical consciousness of mankind, to conduct original research and expand the forefront of knowledge, and to serve the public by disseminating information and providing expertise to those outside the formal structure of the institution.

The university's mission is carried on by the academic departmental unit. The academic business officer's responsibilities include the management and support of all departmental business. In this position, the academic departmental business officer is *the* person primarily responsible for the coordination of the fiscal, administrative, and business management contributions to the academic's meeting of the university mission.

The expertise of the academic business officer—functional, administrative, and resource—will be even more needed in the complex environment facing us in the management of tomorrow's university.

The articles in this volume can contribute to our understanding of the opportunities and constraints facing us in tomorrow's university, enabling us better to provide effective service and support to the academic, professional, and student communities.

Keynote Address

MANAGING TOMORROW'S UNIVERSITY[1]

Frederick E. Balderston

The themes that I would like to strike are themes of a middle and longer view about today's and tomorrow's university. The first of these is whether all of us who are involved in various capacities and responsibilities in the University need to accept our environment within the University and the University's environment, or whether we should attempt to mold and shape that environment. The second theme has to do with the structure of the University, whether we accept that University structure or seek to change it. And the third theme is personal, namely, whether we should accept our jobs, roles, and tastes as they are, or should seek to redirect and modify them.

Let me make comments about each of these three themes. Then I would like to pass on some modest suggestions about how we can look forward in public and institutional directions for the next few years.

The University's missions are themselves partly self-appointed missions—formal education and scholarly activity, and the mission of providing impetus for social and intellectual innovation, new knowledge, and new modes of doing things. These missions, in addition, connect us very powerfully with the surrounding local, regional, national, and world communities through our institutional operations through the fact that our students and our colleagues, both administrative and academic, circulate through important places and do important things, and because institutional operations ranging from research units to academic programs and professional organizations that we support at the University help to support us by connecting us with the world at large.

Although we can state these University missions with great and noble rhetoric, when it comes down to practical cases, the objectives that we live by when we manage ourselves and help to manage activities that we are involved in are much more specific and much closer to home. They are objectives such as not losing more of the budget than we think we have to, trying to figure out how to do at least something new every now and again, and how to get opportunities to reward exceptionally good work by colleagues or subordinates!

These University missions are also objects of proper debate between us and the surrounding society. This environment is now translating our mission into one of attempting to keep very large promises in the face of very substantial constraints of people and resources.

We all know, of course, about the impending stabilization and decline in our clientele age group population for undergraduate and then graduate instruction. There will be, I predict, less effect on the University than on other institutions because under the conditions that exist now students and their parents are even more acutely aware than they have been previously that there is no substitute for a first-rank educational experience with a first-rank name attached to it.

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[1] Frederick Balderson is the author of the book *Managing Today's University*. San Francisco: Jossey-Bass, 1974.

Our relative competitive power as compared with other types of institutions will help to sustain us through what everybody believes, in post-secondary education, will be a very anxious couple of decades. It is worth noting, for example, that in the very short run the University of California campuses are very heavily subscribed in the years 1977 and 1978. I think one can reasonably predict that that will continue to be the case for at least the next few years.

Some University campuses will clearly be exempt from these strictures about stabilization or even decline. For example, the health science components of several campuses and the entire University of California, San Francisco campus, are unlikely to have enrollment and fiscal problems comparable to those of academic programs other than those in the health sciences and professions.

One of the things that is of interest is that with the stabilization and then decline of the age group population, we will be discovering the desirability of reaching out much more aggressively toward other markets. There is no question there is a very active need to support extended University programs, as exemplified by excellent students who go to great sacrifice, in terms of their own inconvenience, to arrange to attend such programs. And yet, so far we have not been able to convince the political powers that be that the University should reach out to meet these new needs as growth opportunities when the conventional part of the enrollment market stabilizes.

We also should keep it in mind that whomever is governor (whichever party), he is likely to take a dim view of spending increases and will be trying to find ways to hold the line on budgetary matters. State budgets, as part of our environment and also part of our blood, the blood that keeps us going, will not give us a basis for rapid growth or easy expansion in the future.

When we look at the resource possibilities and potentials at the Federal level, I am reminded of what I recently had to do at a meeting of the Western Colleges Association in a session chaired by President Platt of the Claremont University Center. I was asked to talk about what the Federal funding and support position for major Universities was likely to be. It appears, so far, that the Carter administration is going to be a bit more flexible, at least at the level of talk, than the Nixon and Ford administrations, but this is unlikely to translate itself into major changes in the funding horizon of major universities

It is still true that a big swing in Federal agency and Congressional attention that began in the mid 1960's is not by any means finished. The Federal interest in higher education can be taken to deal with the problems of access and opportunity for higher education, and with assuring in the national interest that the higher education establishment is adequately financed, both in key instructional areas and in key areas of research.

Politically, the advantages have rested with actions on the front of access, so that increases of Federal money that have taken place over the last five or six years have almost entirely been for the purpose of broadening educational accessibility to more people in the population and more people in the income structure. I think this is a laudable purpose, but the Federal funding for research has not increased on a purchasing power corrected basis for a number of years. Federal funding for things like fellowships for advanced graduate students has actually gone through an absolute decline except in a very few areas of significant Federal priority.

Let me jump to a point that I want to make under the heading of looking forward, because it fits right in with what I have just been saying. President Saxon was a participant at a meeting with President Carter very recently, along with several other heads of institutions and the President of the American Council on Education, Roger Heyns. During that meeting President Carter responded very sympathetically to statements of concern by a number of people present about Federal "red-tape." He set up an immediate channel for redressing injuries, real or imagined, in that area.

Then President Saxon, feeling that the time was right to push on to tougher questions, pressed for an endorsement by President Carter of the need and the national priorities for basic research in universities. President Carter demurred, and the Land Grant Association bulletin put out by Ralph Hewitt's office in Washington is quite explicit on this. He demurred in the terms that what University researchers and faculty members should be doing is to help solve the country's problems and not fritter their time and attention away on journal-article writing nonsense of the sort he had seen too much of when he was a peanut farmer in Georgia.

That is not very good news, I think, because even if this was but the thought of a moment for President Carter, it will be taken very seriously by second and third level bureaucrats in various Federal agencies. Secretary Califano expressed surprise, in fact, after this meeting that this was President Carter's position, because he had never heard the President express himself on this matter in this way before.

The point is that we do not live as an island. We are very much affected in what we are going to be able to do as an institution by what the fundamental philosophical and fiscal decision-making climate at very high levels is going to be. So when the President sneezes, we have reason to reach for our handkerchiefs and try to help him out. We must all hope that it will be possible for effective spokesmanship to improve the mind's understanding of White House and Congressional decision makers on these questions.

As we all know, it has been increasingly difficult in the strongly equalitarian and somewhat skeptical environment of Washington, Sacramento, and all the places where political decisions are made, to reverse the direction of thinking that says that those things that we regard as most unique about the University among higher education institutions are the most suspect in the minds of the key decision makers in the external community. Everybody — faculty members, students, administrators at all levels—has cause to be concerned about this. It affects our jobs and it affects the manner in which we are going to have to meet demands for accountability in all sorts of external and internal directions. If this attitude persists, it will make life managing tomorrow's university more complicated and difficult.

Thus, I think we have to say that the most interesting challenge, in some ways, is one we have to be most puzzled about. This challenge is how to help change people's perceptions about what universities should be doing in the complexities of the contemporary world. There is a fundamental case that says that this is a knowledge society. It is more critical now than it has ever been for expansion of people's intellectual horizons as individuals and for expansion of the fund of knowledge to meet new problems and to make new opportunities.

Yet, we see ourselves as beleaguered and defeated on this kind of question. The result is that an increasing proportion of our resources has to be taken up with institutional defense—we have to try harder to stay more or less in the same place.

I do not see any magical manner in which to bring about a reversal or a change of view, but I submit to you that you are very likely to be participants on numerous occasions, in your own work in the next few years, in exactly this kind of venture. It might be better to be conscious and vigorous about it than to let it happen and simply be reactive to it.

When we look forward in another kind of public direction, we need to think about the problems we have as an instructional institution of making the case for excellence in formal degree-granting education. Universities like ours have been able historically to evoke very strong personal commitments to learning by individual students and groups of students.

In a tougher and harder world, our relative competitive position as compared with largely undergraduate institutions is probably going to strengthen in the next decade or two of enrollment stabilization. It still is a very real problem for us to deal with the question of excellence in the democratic frame, because there is a certain amount of tension (we hope we can keep it a creative tension) between excellence and equality. If we find ourselves backed into the corner of having to say "No—we do not think that 95% of the human race is good enough for us," then we are going to get out-voted in a democratic society in the day-to-day things we do, and the ways we deal with members of the public and with each other.

This question of excellence in American democracy is going to be with us and it is going to have to be reinterpreted in all sorts of policy questions as we go along. If we look ahead in terms of future directions of institutional development, it is going to be very interesting to determine how we can move forward instead of simply trying to stay in the same location on a treadmill.

We now have more kinds of competitors, both on the instructional side and on the side of research and community service. These competitors are extremely aggressive. We become more aware of this on the research side of the house because university research organizations are often regarded as being okay if you do not want to get anything in particular done, but not so good if you do.

I must say that as a research contributor and a research administrator I find myself disagreeing with that verdict.

I feel quite strongly that we in the University should be willing to stand up to defend ourselves when somebody says that Litton Industries or the Stanford Research Institute or some down-the-street research foundation that was formed yesterday morning can do it better. I do not think that in most cases they really can do it better and if they can at the moment, that is because we have some organizational failure on our own part. What we have to determine is whether it is worth it to us to organize well enough to carry out these functions. If it is, then this means we have to mobilize talents like yours and mine in order to do that kind of job. I see no reason at all why many of the mission-oriented research activities should have to gravitate outside the University to think tanks. I think there are very good and appropriate ways, and plenty of excellent historical models that we can point to, to show that we know how to run these large-scale research organization tasks as well as other people do.

If we are going to compete, though, we are going to have to be willing to put in the money and the muscle to compete well. Here is an interesting creative opportunity for you and others: to bring forward some ideas to figure out how we can arm ourselves to meet competitive pressures much more effectively than we presently do. If we leave these questions to faculty members, and if this is purely an individual option, the overworked faculty member who in the short run gets more academic kudos by doing other things than raising institutional funds from the outside is often going to make his choice in the negative, or rather slowly, or in a somewhat less than vigorous fashion. It does take organization, support, and a great deal of help so that these kinds of competitive efforts in research can be undertaken effectively. This is exactly where expanding the role of professionals to work with the well-known faculty leadership can be of great importance to the University as well as to individuals and groups.

Let me now turn attention to the last aspect of looking forward that I would like to comment on. That is, looking forward toward new institutional directions for our own University. In steady-state we are going to have more need, not less, for vitality and for a sense of novelty. We are going to have more need, not less, for discovering new possibilities and new ways for developing curriculum and structure and organization in the academic enterprise, whether this is at the departmental and research unit level or at the level of the college or the campus.

There is some expectation of something approaching zero base budgeting in some parts of the University system. My own personal hunch is that this is the kind of agony you cannot expect everybody in every part of the institution to go through on a once-a-year basis. It might be sufficient for us all, though, to put ourselves through the meat grinder on a less frequent basis in terms of justifying our own survival. To do some self-evaluation, and some self-evaluation with the help of outsiders who are informed and objective, is worthwhile. It takes a lot of courage, but there is a great need for it. The need for it begins with the fact that if we do have a commitment to excellence as an institution we have to enforce that commitment on ourselves more powerfully under steady-state than we ever needed to under conditions of rapid expansion. The only way we can free resources to reinforce excellence is to have the courage to cut back or abandon activities which no longer qualify on quality grounds.

There is a tension between the academic values and the political, social values, (the inside and the outside) according to how this kind of evaluation is done. If we concentrate solely on whether programs or curricula or activities pass muster in terms of academic quality we may thereby do ourselves a disservice by ignoring the realities of the job market for our graduates. All over the United States there are oversized teacher training institutions which are having great trouble facing the reality that they are simply in a world of decreasing numbers of elementary school children. There is less need for elementary school teachers now and very soon there will be less need for junior high school and high school teachers.

Similarly, when I get together with academic colleagues and we talk about problems of the future, like academic demand for new Ph.D.'s, people concede in a kind of begrudging way that somebody, somewhere, probably is in need of cutting back on the numbers of doctoral candidates in each field. In fact, some fields are already substantially flooded and are facing absolute cutbacks now, mainly because students are getting the message and are staying away from these areas. But very seldom does an academic department volunteer to be the "cutbackee," that is to scale back its program in order not to make false promises to doctoral candidates. Why is that? It is because the funding and the academic concern and interest and enjoyment and a number of other features of the situation are correlated with running doctoral programs. So you cannot expect people to volunteer to go out of business. We should, nevertheless, undertake to raise serious questions. If we have to choose between periodic evaluation and review based on academic values and priorities, and periodic evaluation based on political and external market realities, what we have got to do is figure out how to mediate between these conflicting standards and not go exclusively one way or the other. If the University were no longer able to be a self-starting and self-policing institutional entity and had to be run out of Sacramento by the Governor, Legislature, and the California Post Secondary Education Commission, I assure you it would be a much less enjoyable place to be in, for most of us, than it is now. Yet, our problem of figuring out how to make the case for our ability to manage ourselves is by no means one where other people concede that they are wrong and we are right. Unfortunately, since we do not all speak with one voice in the State Capitol, or, for that matter, in Washington, we give our critics too much comfort on occasion because one part of the University may very well attack another under the impression that the short run is what the game is all about. That is not what it is all about. What is really important about this is autonomous, independent, self-respecting, excellent institutional survival.

Another aspect of our institutional direction might be called the "two-hierarchy problem." We have this two-hierarchy problem in the University. When it was announced that I was going to be going from my professorial duties on leave in the summer of 1966 to become Vice President for Business and Finance, a number of my colleagues on the Berkeley campus came to say goodbye to me. I said "Look, I am not leaving the University of California; in fact, I am going to continue living in the same house and I am just going across the street to that building I have never been in before. I am going to work there for a while, but I am going to work on our problems"—meaning everybody's problems, I thought. My colleagues on the campus, several of them, shook their heads and said, "Nevertheless, it will never be the same—farewell." Then after four years of this, from 1966 to 1970, it was announced that I was resigning my duties as a Vice President and would be going back to my professorial post on the Berkeley campus. A number of my administrative colleagues in the University came and said goodbye. I made the same speech to them. I said "Look, I am not leaving the University of California, I am just going back across the street to work with students and faculty colleagues in the Business School and resume the activities I have had with the people at the Center for Research in Management Science and we will keep in touch." They said, "It will never be the same."

I should tell you that I also do not regard the interval of administrative duty I had as a "wretched passage in my life" and say how delightful it is to get back to academic work because administration is just too, too, horrible. I do not believe that. I enjoyed what I was doing, and although it was a little tiring every now and again, I have no apologies whatsoever for having spent four years on full-time administrative duty.

How can we keep the two hierarchies, our two cultures, from defeating each other and from misunderstanding each other? You, in your own professional roles, as academic business officers, have given yourselves an organizational title that is almost a paradox in itself. In the book in which I wrote about "Yesterday's University," I said that too many people in the academic sphere felt the idea of managing a University was almost an insult. They are used to the idea that a University does not get managed, it just sort of happens. According to this view, if the hierarchical set of administrative activities is critical, then you know the University is losing fundamental philosophical vitality. I do not think that either. I think that what we need to be able to do is undertake to put into practice very expert and if necessary, very unobtrusive administrative regimes which will, in fact, be effective in the increasingly complicated and difficult world of justification, accountability, and clever management under fiscal constraints in which we are all going to have to live. I do not think we have come to the end of the need for imagination in working out those administrative practices and regimes.

I was fascinated and impressed to see the variety of topics on the agenda for your conference. Ten years ago, many of the same topics were under very active discussion, but in a situation of much more intense hope that something was going to happen before long. I hope now that we have all lost ten years worth of innocence of matters like information systems and a few other things. I hope now something is about to happen.

When I was Vice President for Business and Finance we decided that the accounting systems needed modernization and that what we should do was have a little one or two year management information systems project, for which we ought to get a few hundred thousand dollars of Regents funds. We'd clear out these problems by getting a group of Accounting Officers from the campuses to work with the Controller, whipping it all. Then everybody would be happier with administrative data processing and information systems design. Ten years, and quite a few million dollars later, we are still going through the throes of this.

There have to be some lessons in that. One of the lessons has to do with the fact that the information systems project, like a number of other things, has itself gotten involved in a broader framework question.

In what ways is it true that this is one University, and in what ways is it true that there are nine campuses sailing along somewhat uneasily, being pushed by more or less the same wind?

I think that President Saxon and his systemwide colleagues really are going to face an enormous challenge in helping all of us maintain the point of view that we do have one University, and that it is worth fighting to maintain this concept. The concept is that the University, to be sure, has differentiated roles and characteristics for the campuses, but is not a disintegrated and centrifugal kind of institution.

I was very much interested and heartened to hear from a number of you in informal discussion that one of the great values that you place on these meetings is sharing problems and visions with each other across campus lines and across job lines. I think that this is a very real phenomenon, and ought to be a much stronger phenomenon than it is. I hope that it will be somehow possible to do more to break down this two hierarchy question that I mentioned, but I do not have a magical method for that.

What I can commend to you at least is my view that this is a great University. We all have good reason for our taking the responsibility to keep it that way.

BUDGETING IN TOMORROW'S UNIVERSITY

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UNIVERSITY BUDGETING IN AN ERA OF SCARCE RESOURCES

Frank M. Bowen
Sandra O. Archibald

Our topic is resource management in higher education in general and in the University of California in particular.[1] The term "resource management" encompasses more than what is traditionally thought of as budgeting. It includes assessment of resource needs and allocation and reallocation of existing funds as well as procedures for acquiring funds from the State. Equally important, it represents a shift in authority and responsibility from budget professionals to academic managers, from primary emphasis on dollars to primary emphasis on the systemwide and campus objectives that dollars will purchase. Activity has shifted from emphasis on preparing budgets and distributing annual incremental dollars to achieving stability in support levels through multi-year planning and budgeting. Past practices of detailed control over resource use are giving way to flexible use and after-the-fact assessment of that use.

Resource management is both highly "political" and highly "technical," and these characteristics give it enormous complexity. Externally, it is political in the sense of partisan politics and the state government's own budget process. Internally, it is also political in the sense that it involves institutional decisions which are not susceptible to quantitative measures in any really useful sense—that is, decisions about academic program priorities within campuses and across them. Program decisions are the result of good academic judgment, of negotiation, sometimes compromise, and sometimes expediency.

The technical aspects of resource management are those usually associated with budgetary procedures. Budgetary formulas and costing devices can be extremely complex. Accounting procedures play an equally important technical role in the management of resources. As allocation decisions have become more difficult, the technicians have often responded with complex formulae and procedures.

The political and technical aspects of resource management have one common and unfortunate characteristic: decisions made for primarily political or technical reasons are difficult to justify. Funding similar programs at a higher level on one campus than on another is not going to be a popular decision at the second campus. The campus at the short end of this particular decision is unlikely to accept without question either the better judgment of management/administrators or the results of a budgetary formula.

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[1] Several people who are closely concerned with resource management in the University reviewed an early draft of this paper, and many of their helpful suggestions have been incorporated into the final version. Despite this help, the authors are representing their own opinions and perceptions of resource management in the University, not those of the campus and systemwide officers who are responsible for it.

The problem of answering campus questions—explaining the bases of budgetary or resource decisions—has been around a long time. It is becoming critical, however, as higher education moves into the uncertain era of scarce resources. To make the best use of scarce resources there should be widespread understanding of the policy objectives as well as the processes and procedures through which these resources are distributed and managed. We are concentrating here on understanding within the University, but understanding of state governmental agencies is equally essential to effective resource use. Without such understanding, a never ending series of fiscal controls will severely limit the University's capacity to direct resources to critical program areas.

Priorities are the heart of the problem. Why fund this program instead of that? Why give an additional faculty position to a particular campus? Why fund deferred maintenance rather than a new research institute? The University of California has resource management objectives and a particular tool—campus visits—which address these and similar questions which are at the interface between plans and resource needs. Before discussing these, we will take a look at broader national trends and at some attempts to solve resource management and planning problems in other universities.

The National Transition from Growth to Stability

Nationally, higher education is in a state of transition from a period of rapid growth to one of relative stability in both enrollment and the growth in funding that is related to that enrollment. The transition is clearly part of broader trends in society, not all of which can be quantified in demographic terms. Some diminishing enrollment growth is attributable to a smaller pool of applicants, but some also is attributable to less participation by those within the pool. This transition is not uniform across all states, nor, within states, is it uniform across institutions. Its impact will, nevertheless, be felt by virtually every academic department on every campus, we believe, including those in this University.

The political or policy aspects of resource management during this transition are best characterized by uncertainty. State and federal affirmative action requirements are an example: costly requirements are imposed, but the mandatory language is sometimes ambiguous and implementation of the mandates are rarely funded.

The technical aspects of resource management present similar uncertainties, for processes suitable for a period of growth are often found to be quite unsuitable when that growth stops. Budgetary formulas present the most obvious example. In times of growth, relatively gross enrollment figures were related to state dollars, and—explicitly or implicitly—educational quality was represented by the resulting student/faculty ratio, essentially an artifact of the formula itself.

- Enrollment management is becoming increasingly complex. Headcount students must be translated into full-time equivalent students, and the latter must often be disaggregated by instructional level, by program, or by both for planning purposes. As race, sex, geographic origin, and economic status are added, what had been a simple enrollment figure becomes almost an essay on the policy issue of access.

- The dollar figure in the student/faculty/support equation can no longer relate primarily to state dollars. It is doubtful if educational quality can be maintained—at least in a research university—over a sustained period of limited state funding without consideration—if not actual use— of total funds available from all sources. For example, in 1960, 54 percent of University funds were from the state general funds; in 1975, 44 percent were from this source.
- The number of faculty members is no longer a simple, aggregated figure, for disciplinary specialization, age distribution, and tenure status are essential considerations in program balance.
- Other factors are becoming increasingly relevant: modes of instruction, campus and program size, and staff and faculty salary considerations.

Access, quality, and cost are state policy issues as well as academic ones. The state will seek assurance that scarce resources are properly meeting its own policy objectives, and state fiscal and coordinating agencies will not remain aloof from questions of academic program distribution and quality. Assuredly, academic questions should not be answered by these state agencies, but these agencies do have the obligation to assure themselves that these questions are being properly addressed within higher education. Unless institutional planning and resource management processes within higher education give such assurance, the state will intervene.

Other Multi-Campus Systems

The attempts of other multi-campus university systems to manage resources in an era of scarcity have met with varying degrees of success.

Recently the University of Missouri attempted to state program priorities for its four campuses in very explicit terms. Briefly, after assessment of virtually all academic programs by outside review teams, a brief planning document was prepared which listed programs in five categories: programs that were primary candidates for development, secondary candidates for development, to be continued at present levels, candidates for reduction, and to be terminated. The plan was achieved only after protracted—sometimes acrimonious—discussion and negotiation. As part of the process, costs were projected to indicate how resources might be redistributed to achieve the objectives of the plan under conditions of level funding. The bitterness that this exercise engendered evidences the difficulty of formally and explicitly stating program priorities, and it probably contributed to the decision of the system chief executive to return to teaching and research.

If the University of Missouri appears to have been too specific in its statement of priorities, the University of California may not have been specific enough in its *Academic Plan, 1974-1978.* The plan was characterized by a Regent as being designed to conceal intentions rather than reveal them. One need not agree with this characterization to believe that the University might have done better. The plan did set out processes for ongoing review of fiscal and academic decisions, and hard decisions about program priorities were probably implicit in it. It would have been less open to criticism, however, if policy direction had been more specific, particularly in offering greater guidance for implementation.

It is easy to be critical of these attempts. The specificity that caused the difficulty in Missouri was probably required because of immediate and serious expectations of reduced revenues. When action must be taken immediately, perhaps it is best to err on the side of specificity. On the other hand, the University of California was not under such time pressure. Moreover, the systemwide role in determining or assessing specific campus academic programs is not as clear as in most other multi-campus systems. The University's *Academic Plan* recognized traditions of substantial campus autonomy, and the slower, less explicit approach to priorities was probably suitable to the time.

The University of Illinois and the California State University and Colleges appear to have steered a course between the specific priority statements in Missouri and the absence of them at the University of California. In the California State University and Colleges, for example, new programs are scheduled for establishment over a five year period, and the plan and schedules are revised annually. In the University of Illinois, systemwide and campus plans are essentially loose-leaf documents which were said to be under continual revision.

The University of Wisconsin System is developing planning and resource management procedures to assure a more stable funding base. For a variety of reasons, including somewhat arbitrary "productivity" requirements imposed by the state, the Wisconsin System had been faced with substantially greater uncertainty about year-to-year state support than similar institutions. To relieve some of this uncertainty, the Wisconsin System reached an agreement—tentative, admittedly—with the legislature on funding procedures. The agreement is called the "2 + 2 Plan" because it projects academic programs and support for four years, the current biennium and the succeeding one. The process differs from customary budgetary formulas in that it includes academic program plans as well as funding methodology. The major objective—the creation of a stable environment for academic planning—is also a major objective of current resource management efforts in the University of California, but the efforts in California are more broadly aimed at all funds, not just those from the state.

University of California Resource Management[2]

The Systemwide Administration recognizes the uncertainty of federal and state funding policies. To the extent possible, it is attempting both to influence these and to act as a buffer for the campuses in the event of sudden funding shifts. At the same time, internal procedures are being refined. Since it was issued, the 1974 *Academic Plan* has been made more specific by annual campus planning statements and by systemwide review of specific programs such as administration and education. Academic planning and program review are under the jurisdiction of the Academic Planning and Program

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[2] The discussion of University resource management objectives in the early part of this section draws very heavily on "Planning and Resource Management," a paper presented by Chester O. McCorkle, Jr. to the National Association of State Universities and Land Grant Colleges in Washington, D.C. on November 15, 1976.

Review Board (APPRB), and we can assume that systemwide planning procedures together with campus academic plans will provide adequate general direction for the University. Some believe that systemwide planning efforts should be strengthened, while others suggest that the effort may already be too strong. We need not take a position on this issue, for our subject is resource management. Those concerned with resource management have the task of implementing the results of academic planning, however general or specific those results might be.

The three major objectives of resource management in the University—flexibility, multi-year fiscal planning, and evaluation—will be discussed first. A concluding section will outline "campus visit" procedures, one major vehicle for reaching these objectives. There is little new about the objectives themselves: the campuses, for example, have always exercised considerable flexibility through internal resource reallocation. What is new, however, is the attempt by the Systemwide Administration to establish regular procedures for rational decisions about reallocation of resources among campuses in the context of very tight overall resource contraints.

Flexibility. Fiscal managers sometimes state that they do not need more money, but rather need freedom to use existing funds. This statement is usually followed by a request for additional funds because they cannot be given the desired flexibility. In the past, these additional funds were usually forthcoming, for state support generally kept pace with enrollment growth. But the likelihood of substantial increases in state support is rapidly decreasing, and the objective of the Systemwide Administration is, we believe, to balance, to the extent possible, the decreasing likelihood of new money with greater flexibility.

It is important to remember that flexibility is a matter of perspective. Campus flexibility exists at the cost of accountability for activity in the schools and departments. At the state level, legitimate interests may limit the flexibility for any public institution of higher education. The real question is what procedures for accountability are appropriate at each level.

Flexibility at the campus is essential. The campus is at the operating level where the action is. Campus administrators and faculty must be able to shift resources between types of expenditures or between instructional programs on short notice. Campus administrators and faculty—particularly the faculty—must be given incentives for reallocating resources. Incentives for the maintenance of program quality and balance are in place. But incentives for program change and for economics in operation are not well developed. On the other hand, there are limits to campus freedom to shift resources. Some detailed accounting limits arise from the obligation of the University as a public institution to use funds in a particular way and to account for this use. Other limits arise from the nature of the University as a multicampus institution in which the decisions of one campus can have an impact on activities at the others.

The Systemwide Administration is allocating total funds to the campuses beginning with the 1977-78 fiscal year, rather than making specific allocations from separate funding sources. This change in allocation procedure is intended to increase campus fiscal flexibility. Initially, at least, increasing flexibility through total fund allocation will run into some limitations. For example, can health sciences funding be used to meet urgent campus needs in other areas? Despite its limitations, the possibility of greater flexibility through total fund allocation is a real one.

Multi-year Fiscal Planning. One of the major efforts of the Systemwide Administration is to break the traditional lockstep imposed by the annual state budget cycle. Academic programs cannot be turned off and on like a water tap. New programs require start-up costs for planning and equipment, and old programs must be phased out to meet the expectations of students and to permit staff adjustments. In contrast to these and similar multi-year program considerations, past budgetary practice was perceived to concentrate on the annual, incremental acquisition and allocation of state funds. In the growth period that is now at an end, the attention to the annual budget process was justified. But as the rates of enrollment increase began to diminish, systemwide and campus efforts were seen as being directed toward a smaller percentage of total resources. The annual acquisition process will always be an important systemwide effort, but an equally—perhaps more—important one will be the ongoing management of all resources on a multi-year basis.

It should be emphasized that the objective of multi-year resource management is to achieve a more stable base for academic planning, not the establishment of any specific type of budgetary process. The University's approach is consistent with virtually any particular budgeting system, whether it be planning, programming, and budgeting or zero base budgeting.

Evaluation. Perhaps the least developed of the University's current attempts to relate programmatic and fiscal decisions is in the area of evaluation. The University sees evaluation as necessary in at least three major areas:

- The magnitude and quality of existing programs should be evaluated, and this evaluation must have the understanding, commitment, and involvement of the faculty. The Systemwide Administration must bring the needs of the state and of students to this evaluation.
- Systemwide and campus policies and procedures should be systematically assessed to determine if they are consistent with resource uses that forward stated objectives.
- The performance of systemwide and campus management and staff must be evaluated by procedures as carefully developed and applied as those by which individual faculty members are judged.

Campus Visits: The Bottom Line. As campus visits are now developing, they consist of relatively informal discussions on each campus between the Chancellor and the two senior, systemwide vice presidents (The Vice President of the University and the Academic Vice President). The extent to which other than the most senior systemwide and campus staff participate varies with the particular issues that are being discussed and, to some degree, with the particular campus.

In most instances, the major topics for discussion during a visit concern academic policy issues and funding priorities at the time at which the visit occurs in relation to the annual budget cycle. Regardless of whether the context is the allocation of this year's appropriation or the contents of next year's request, the explicit, overall theme is the relationship of campus plans and program priorities to the resources available to implement them. There have been three rounds of visits so far:

- In the summer of 1976, discussion centered around the status of campus planning efforts and progress in the implementation of the policies in the 1974 *University Academic Plan.*
- In the fall of 1976, discussions centered around academic program plans and priorities for the next four years and the level and timing of resources needed to meet them.
- Most recently—during February and March 1977—the major item of discussion was the systemwide presentation of resource allocation decisions to meet approved program plans for the period 1977-78 to 1980-81.

As yet, those who attend the campus visits from the systemwide offices are not characterized by a formal title—i.e., there is no systemwide "Office of Campus Visitation"—nor does there appear to be any immediate movement to institutionalize the visits. There are no forms to be routinely completed, collected, and filed. There is an agenda, but most items are particular to priority issues on the individual campus. The agenda for each campus is the result of discussions within the Systemwide Administration concerning current planning and resource management issues. Some, but by no means all, of these issues may be suggested by the Chancellors. The extent and nature of consultation between systemwide staff and campus staff in preparation for the visits is still undetermined, but it is hoped that the ultimate procedures will be such that neither staff develops fixed positions that would inhibit the policy discussions.

The present intent of the Systemwide Administration is to make these campus visits an integral part of planning and resource management practice. But campus visits deviate considerably from customary budgetary practice, not only in the University but in any large organization. Many—perhaps most—budget professionals would probably consider campus visits to be much too informal and unstructured even in their present early stage of development. What might cause more concern is the deliberate lack of urgency about moving the visiting procedures beyond this informal and developmental stage. Thus far, the systemwide participants, at least, seem willing to tolerate the current ambiguity in return for gaining both credibility and experience. The initial benefit of the new procedures is a reduction of the enormous workload required for preparation of campus budget requests. But there are other good reasons for the deviation from past practice and greater informality. It is hoped that the campus visits will overcome past emphasis on the annual budget cycle, past attention to parts of campus budgets rather than to the whole, and previous inability to ascertain specific campus priorities.

Customary practice in the past emphasized the annual budget request to the state, and this emphasis resulted in concentration on annual incremental allocations to the campuses. Data were gathered and decisions generally made on the basis of a single fiscal year. Although the Systemwide Administration must, of course, remain concerned with the annual state budget cycle, the discussions with the campuses are now set in the context of ongoing campus operations, plans, and programs. Discussions are held throughout the year, and decisions are made with regard to more than one budget year.

Past practices also tended to emphasize separate funding categories rather than the impact of the aggregate of these categories on overall campus objectives. In the past, separate resource decisions allocated the patent fund, opportunity fund, and others. During campus visits the attempt is made to examine all planning and resource management issues, and to clarify the priorities and relationships among them. The specific funding source is secondary to the commitments to programs.

Finally, past practices did not effectively identify campus priorities and, where appropriate, raise them to the systemwide policy level for resolution. Although campus academic plans and annual planning statements do indicate priorities, they generally do not have the specificity required for resource allocation. There are very good political and psychological reasons why a campus will be reluctant to state exact priorities formally. A formal statement of high priority can encourage unreasonably high expectations. A formal statement of low priority can be a self-fulfilling promise. Moreover, although long-term priorities remain stable, short-term priorities shift for many reasons. Student demand and the sometimes erratic behavior of external funding sources have a clear impact on short-term priorities. In addition, a change in the overall funding level may require reordering of short-term priorities.

The advantage which the campus visits are believed to have over past practices is the avoidance of total reliance on annual, formal statements of priorities. Campus visits can, it is believed, enable the senior systemwide officers to ascertain real campus priorities and the implications that these have for systemwide resource use. At the same time, these visits will enable the Chancellors to explain their needs more adequately. Will campus visits aid the University in meeting its resource management objectives of flexibility, multi-year fiscal planning, and evaluation? The jury is still out, but the verdict can be favorable:

- Flexibility can be achieved because the campuses will have greater control over total funds. The price for this flexibility will be candor and openness in revealing priorities for expenditure.
- Multi-year fiscal planning can be achieved if campus visits are undertaken in an atmosphere of mutual confidence. There must be confidence on the part of the campuses that shifting a priority item to a future year does not mean denial.
- Evaluation will be enhanced through campus visits as the senior, systemwide officers bring personal, continuing, and qualitative knowledge of campus objectives and priorities back to their staff associates.

The success or failure of resource management in the University during the difficult period ahead depends on many factors, and campus visits are only one of these. The role of the President as the "court of appeal" from decisions by his senior aides will be a difficult one. The lack of quantitative measures to relate academic program activity to resource use is a problem which is recognized and being addressed. Not only does the systemwide staff need some measurement of resource use, but external agencies must be assured that public funds are being effectively used.

Perhaps most critically, there is the question of trust and confidence on the part of all concerned with the budget process—the Regents, state executive and legislative fiscal agencies, the coordinating agency, and last but not least the faculty. The faculty role in academic planning will remain the same, but its role in multi-year resource management is not yet clearly defined. Whether through campus faculty participation in the campus visits or otherwise, the success of the new procedures requires that faculty be convinced that systemwide decisions are rational ones based on the best information and judgment available. The proverbial "clerk in University Hall" who reacts negatively and arbitrarily to every reasonable request for funds will probably always be with us. The hope is that those at the campuses will believe that the Systemwide Administration is just as interested as they are in finding him and putting him out of business. Total agreement on any resource management decision is impossible, but with better understanding of the processes by which the decisions are made and of the reasons for them, the University will be better able to meet the difficult issues posed by an age of scarcity.

THE RESOURCEFUL MANAGER

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THE UNIVERSITY ADMINISTRATOR— IMAGES AND IMAGING

Carol Kovach

The subject of this paper is images, and why images are important to the administrative staff of a university. The work of Irving Goffman is used as a basis for the ideas I will present, but practical experience has lent color to these ideas and has allowed them to be adapted and expanded for use in a university context. I would like to illustrate a few examples, adapted from my own real-life situations.

The Telephone Call

The phone rings. I pick it up. "Hello," I say, in a non-commital voice. And wait. The next move is up to the caller. After all, I don't want to sound too friendly and inviting, not only because I am in the middle of a conversation with someone in my office, but because I have no idea who is intruding on my conversation.

The caller has dialed a specific group of numbers, and expects to be answered by the organization or person to whom those numbers "belong." A mindset is already in place—our societal training has taught us to believe that technology rarely fails us. Expectations have been created on the part of the caller that the designated person or organization will automatically answer the phone, even to the point of barely listening for any signs indicating the identity of the respondent. The caller begins to ask for Mr. Potter. I pause. Frustration begins to emerge. Not only am I not Mr. Potter, but I can see no reason why Mr. Potter's name should even be a subject of inquiry. I have never heard of him. Technology is either failing more often than usual, or people can't read or dial correctly. Again, assumptions. It is their fault—they are either stupid or incompetent. It seems that at least ten percent of the incoming calls are for someone other than me. And here is yet another. Last time it was the IBM repair shop; now it is for Potter.

I reply: "You must have the wrong number. There is no one by the name of Potter at this number." I think I have adequately dealt with the matter, and begin to hang up. But the caller is adamant. They want POTTER. They begin a dialogue which only serves to make me increasingly impatient and eventually angry. Why should they insist that I should know who Potter is? Haven't I just told them I have never heard of the man? But no, the problem is that their image is that I *should* know; after all, I am a female. The caller does not know who I am, what I am doing, or that they are being a nuisance. What does this caller mean by asking endless impertinent questions as to whether I know of a Potter in the university, rather than listening to my explanation that I do not? It is obvious that the caller's image of me is one of Potter's private flunky, which only serves to increase my irascibility, until, in desperation, I slam the phone down.

I refuse to be a directory-inquiry service. The visitor in my office is amused, asking whether this happens often. I say, "Oh yes, many times. There seems to be an assumption that females in organizations who answer phones (or sit at desks) must be secretaries, and therefore are obliged to answer stupid inquiries with patience and even eagerness, directing erroneous or misplaced phone calls and people."

Assumptions, expectations, stereotypes—all conjure up different images. But in this example, because they are based only on a voice—an irate and indignant voice, they are rather hazy images. Not a very helpful voice; it is one which might make the caller think twice before dialing a wrong number again, let alone wish to encounter me in a face-to-face situation. Why was my reaction so bad-tempered? Perhaps in part because I value my time, and it appeared to be "devalued" by the caller. To him, his needs were perceived as being more important than my time.

The phone rings again. "Hello," I say again, but this time rather curtly. It could be that fellow again. And this is the second interruption by that infernal telephone machine in less than five minutes. Also, I am getting a little irritated at having to be impolite to my visitor, but at the same time feel compelled to answer the phone. Again, societal values have crept in, creating the impression that phones should be answered, even taking precedence over people in a face-to-face context. Unless, of course, we get sneaky and take the phone off the hook, but then our visitor might have cause for wonder! This time the caller is expecting me to answer, and recognizes my voice, calling me by name. The conversation flows, even after my initial abruptness, which might have caused some momentary speculation of whether it was prudent to call me at that particular time. I become relaxed, and my tone of voice becomes increasingly natural and friendly. I am talking to a friend, someone I know. I know what they look like, and am able to form an implicit impression about where they might be phoning from (e.g., their office or home), perhaps because they have intimated such circumstances in order to give me a context in which to "view" them. I know where they are "coming from," both literally and perhaps psychologically. I can visualize their setting. We are both comfortable. The assumptions are those which have some validity. If the caller needs to find a piece of paper, I can estimate how long I must allow for this, knowing the probable location of the pen and pencil, thus enabling me to communicate in more than a verbal sense.

These types of verbal, non-visual interactions via the phone have very different meanings according to our mood, information available, and the images we want to convey. Sometimes we don't care. Other times it is crucial to convey a "good" image. It depends on the frame of mind, the situation, and the importance of the people involved. But our reason may not be explicit, even to ourselves. It is not a decision which is thought over carefully, unless it is obvious that much depends on it.

I finish the conversation with my friend on the phone, and return to my visitor. I know how to interact with her. I can see her, and she can see me. We are basing our images of each other on more than voice. I can "see" what she thinks of me, to some extent, by her posture, enthusiasm, or general demeanor.

The Party

I am new in town and have been invited to a party to meet people. I walk into the room; a room full of people, all of whom seem to know each other and are chatting away about their campuses. I only know the few people that have invited me. Other than that, it is up to me—and those images. Oh dear. How I hate these types of events. I see some other people looking just as "out of it" as I am; and then there is the clown, who seems to know everyone. But I can see some of the people at the party eyeing him, wondering if he is for real. Is that what he is like at work? Thank goodness I don't work on *his* campus!

I try sizing people up by their dress, their way of speaking, their mannerisms, their capacity to hold their liquor, and their ability to engage in conversation with almost total strangers. Hoping not to appear too stuffy, but also not too frivolous, I am invited into a conversation, and introduced around. I shall never remember all the names, I tell myself, but at the same time I am trying desperately to find something which will help me. Again, images come in, trying to assist me in fitting a name to a person. What do I remember about him, her, her, and him? If they stand in the same place, and always wear the same clothes, fine; but they won't. No, try again. Brown hair; smiling eyes, and a weird accent. Must be from somewhere other than California.

The party goes on. I remember some people, forget others. Those I remember made an impression of some sort (although not always good). Impressions and images; images and impressions. The whole party seems to be one big mess of them, some changing with knowledge, some with more contact, only to be replaced by other images. How much can I really know about someone in this type of a setting?

Images and the University

Who cares about images, anyway? Why should it matter what people think of me—about how I look, sound, act, gesture, walk, sit, sneeze, eat, think, or even how I wear my hair—those things which make up what I am, to myself and others? How are images helpful or harmful? Who creates them, and how? Do they really mean anything? What is the role of images in a management context, particularly a university? Isn't a university a place where people can be themselves, without having to put on the phoney attitudes so often associated with the business world or with politics? Isn't the university "above all that"?

No, not entirely. For the university administrator, the image presented—to peers, students, faculty, or visitors—may in part be conditioned by the role, or at least the image of the role held by the role-holder. This will vary according to the university administrator's individual concerns, history, and length of time in a job. The older, more secure administrator may not really worry too much about the image he or she presents. No one can easily fire that person, unless he/she is grossly incompetent, so the "I am as I am" syndrome may take over quite easily. For the younger, less-experienced university administrator there are other concerns, perhaps stemming from being new in that particular position, or following in the footsteps of some "legend" in a department. All bring their own difficulties, their own role-models.

Irving Goffman is perhaps the best known authority on the subject of images, having written two major books on the subject.[1] He refers to the pieces of the imaging process as "small behaviors"—behaviors which are present in "face-to-face" or "mediated" contact with other people. He defines "face" as:

> . . . an image of self delineated in terms of approved social attributes —albeit an image that others may share, as when a person makes a good showing for his profession or religion by making a good showing for himself.

Goffman suggests that in each contact with another person, either in a face-to-face physical sense or by a mediated situation, such as by phone, a person tends to:

> . . . act out what is sometimes called a *line*—that is, a pattern of verbal and nonverbal acts by which he expresses his view of the situation and through this his evaluation of the participants, especially himself.

This "line" is taken unconsciously, and may be conditioned by the institutional setting. A face is maintained when the image that a person gives is internally consistent. Actions, words, etc., are seen as fitting with the face, and therefore the image, by observers. A person may be termed "out of face," or having a wrong face when there is inconsistency with the "line" being put forth. The image and the actions do not match.

Goffman suggests that the "expressiveness of the individual" (and therefore his capacity to give impressions) appears to involve two radically different kinds of sign activity: the expression that he *gives* and the expression that he *gives off.* The image which a person gives refers to the verbal symbols (or other means) of conveying information. The impression which a person "gives off" is more complicated; it involves more than mere words—body language, expressions, dress, manner, posture, tone, etc. It is more than the mere giving of information.

For the university administrator, the image presented—to peers, students, faculty, and visitors—may in part be conditioned by the *role*, or the image expected of someone involved in the administrative affairs of a unit of the university.

But why are images so important? And how are they important in a university context? Why are images of concern to university administrators, in whatever capacity or level they may be operating? Let me give a personal example.

I remember one instance, when I was the administrator for a large department (Political Science, Sociology, Anthropology, and Archaeology) in a new Canadian University. The memory is still so strong that it caused me to address this subject of images at this Conference. It made me think for many years afterwards of the importance of images and of what they mean to different people according to their needs or position at that time in their life. In this position I saw most of the members of the department each day—faculty, staff, and particularly graduate students, as they had to walk past my office to reach theirs. As my door was normally open, they would pop their heads round and say hello, or some other comment, to let me know that they were in should anyone be looking for them, or if there were a phone call for them. Or so I thought. It was only when I was rather grumpy one morning and didn't acknowledge the greeting of one of the graduate students that I realized the importance of certain people within a university structure—the university staff and administrators. Not necessarily the top administrators, but the middle-management—those people who are there most every day, and tend to stay in the same or similar position for several years at a time; the mainstays of a university. My friend, the graduate student, somewhat perturbed by my non-greeting, fretted all day over my lack of response. But I had no idea of what it was I was supposed to have done. Finally, thoroughly upset, he came back to my office some hours later and asked why I had been so offhand to him. He also asked whether I realized that I had ruined his whole day. I was staggered. Who, me? How? On reflection, I realized that it was caused by the image I gave off—of not thinking he was important enough to warrant a greeting, and by indicating that I was too busy to bother with him. From then on I was far more careful!

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[1] Goffman, Irving. *The Presentation of Self in Everyday Life,* Woodstock, New York: The Overlook Press, 1973, and *Interaction Ritual: Essays in Face-to-Face Behavior,* Chicago, Illinois: Aldine Publishing Company, 1967.

In a university setting, a temporary "home" for many members, the image of the university administrator takes on greater importance. It symbolizes a whole department, if the only contact with that department is through the administrator. It makes the difference, for a student, between feeling wanted or being treated as another bureaucratic nuisance. Images convey efficiency or sloppiness, happiness or dictatorial working conditions, in other words, the spirit of a university or the tone of a department. But above all, they convey the image of the university to its clients (students and the public)—current, future, or past. And that is why images are important. A bad image (even via a poor sports team), may have serious consequences for the reputation of the university in the eyes of those who care, who can influence, and who can bestow blessings as well as problems.

The university may be characterized as a *"temporary system,"* where many people spend only a small part of their life, using the university as a transition from one career to another. *Students.* Students moving from the student career to the working career; students moving from one working career to another; students learning to be teachers. A second group of people within the university are the *teachers*—who may be characterized as temporary or "spasmodic" in a different sense of the word. They come and go during the week according to their individual schedules, and some semesters are gone entirely, but they are still a part of the system from an administrative point of view. They may attend a conference, or perhaps may be seen as temporary in that they are just not around the campus for sustained periods, only meeting the requirements which the system imposes by way of teaching. They do not want to be disturbed. They have other things to do of an individual nature.

These are the two major classes of people with whom the university administrator must deal. But other staff and administrators are also present—those people who keep the university functioning for the teaching and research activities to take place. What about them? In what way are they temporary? The higher up the administrative ladder, the less likely the administrator is to be found in the office. There are those infernal meetings to be attended, symbolizing the democratic decision-making which is part of the university. The University of California administrator's life is also complicated by the presence of a *multi-campus university*. Many university administrators must flit between campuses, finding out what is going on elsewhere, making sure that Berkeley is not about to let loose some edict which makes little sense for other campuses.

Because of the temporary or spasmodic nature of many of the relationships which the university administrator must engage in, imagery becomes important. The number and variety of people with whom an administrator comes into contact throughout the year is mind-boggling. There are names to remember, special characteristics to be remembered, particular needs to be considered—all amid the other work to be done. There are so many people, so much contact, so much bridge-building, so many egos to be stroked, and so many different needs and demands to be met. And everyone thinks their needs are the only ones that are important!

Images, Stereotypes, Assumptions, Expectations

There are a number of behaviors associated with *images—stereotypes, assumptions,* and *expectations* being perhaps the three major ones. Assumptions may lead to stereotyping; and stereotyping then may lead to certain expectations. But all of these lead to images—images based not only on information, but on information we imagine—the gaps we fill in for the information we don't have. Imaging is less constrained than stereotyping however, as it allows our minds to be more imaginative.

Much of the social psychology literature addresses the phenomenon of stereotyping, which is based on assumptions about information obtained—about a name, a race, a country or age group, all of which comes from our upbringing. For example, a person with an Irish name is associated with an Irish background, a particular ethnic origin. From this piece of information assumptions may be made, leading to a stereotyping of that person based on previous experience or "knowledge" associated with the Irish. These may be good or bad, personal or general. But the train of thought is set in motion. I expect that most people think of Irish people as being white, not black. Their hair is neither black nor blonde, but somewhere in between. And they have the build of most European people—not small, not tall. Just ordinary. So a name has connotations—built in assumptions. And with regard to behavior there may be certain myths; whether they are true or not is not important. What is important is that they exist, and that they have come into our consciousness at some point in our life. Therefore, if someone who did not fit these generalized characteristics in a physical sense turned up with that name, there would be some shock, some need to reshuffle thoughts. The stereotyping did not fit.

Stereotypes, assumptions, and expectations form the beginning of an image. But the person themselves must fill out the rest. Thus, images may be broken down into four categories:

1. Self-images
2. Images given
3. Images given off
4. The imaging of someone else

The first three categories are all associated more directly with the subject, the person concerned. The fourth is related to the processes by which we "image" other people. But they are all an interactive, interrelated part of the process of image construction.

Images are formed from pieces of information, either explicit or implicit. They are formed from the processing of information; the reactions and interactions between people. They may even be formed from descriptions of a person one has never met—the intermediary becomes the image-conveyor, helping in the process of image building.

What Are Images Made of?

Images are made of many things—e.g., of voices, dress, physical appearance, sex, age, race. But they are more than that. They are made in a context—a context which gives meaning to the attributes, to the exchange. In our phone conversation, there was only voice to go on; images created by voice. This includes not only accent or whether the voice was male or female; but tone, speed, expressions, words, and background noises. In face-to-face contacts, we have more information, both in helpful or destructive ways. We can use dress to our advantage or disadvantage by thinking of the context, the appropriateness, and the image we want to give off. Images are in the eyes of the beholder, but the same characteristic may have different meanings for different people. Let us consider three examples based mainly on dress or job-related attributes.

I walk into a building—a university building. It is the Graduate School of Business. I am going to see a computing professor. I need some help with some programs, and I am hoping he will recommend someone who can do this. What images are being given by the people in the elevator, the halls, while I am on my way to Professor Z's office? Some women, perhaps students. Some wearing skirts, dresses; others in jeans or pantsuits. And the guys; some also wear jeans, but a few are wearing suits and ties. I approach Professor Z's door—it is ajar—and I knock. "Come in," I hear a voice. It is a friendly, encouraging voice; a strong voice. I go in. What do I see? My goodness, someone with a bow tie. Not quite what I expected. The guys I usually see in the computer center wear the oddest clothes—mixed up colors, rumpled shirts,—anything that seems to come to hand. Not like this guy. Perhaps it is because he is a professor. He is even wearing a vest, and a suit. I wonder if this is a special day, or if this can be his regular dress? What was my expected image? Well, I had envisioned a somewhat casually dressed person, not really worried about the finer points of clothes.

My other appointment is with the administrator of the department. I know it is a woman, and she has been there for some time. What do I expect? Well, probably some frump, perhaps sort of dumpy and officious. I spoke to her once over the phone, but that didn't tell me much—an older voice, friendly, efficient. I go to her office—and again, surprise. Here is a slim, nattily and chicly dressed woman, with a friendly, warm smile. A little worried, but she really knows her stuff. She is talking to someone, explaining the rules and regulations, nicely but accurately. The image? Smart, cares about her appearance, and seems to enjoy herself.

Now I am to see someone who knows something about statistics and insurance. What do I expect to find? Glasses perhaps, someone who is precise in his dealings, someone who is neat and tidy. Sounded light and airy over the phone, even happy and carefree. His office door is closed. I knock on the door. A light cheery voice tells me to come in. Oh, no. My image is gone. Here is a short guy, smoking a cigar. Not only that, but he has an old-fashioned hair-cut. A crew cut. And he is so casually dressed—sports shirt and no tie; conservative brownish colors. No style. Gee, am I in the wrong place? He answers his phone. And giggles. Is this really a statistician? My image of a statistician was certainly not like this; I had more the accountant-type in mind, mincing over figures—the Micawber type. Oh well, another image blown. Perhaps I ought to stop having images, and just leave my mind blank.

So Much for Images[2]

In conclusion, I would like to say that although I consider the subject of images important, I also feel that there should be some mix of what a person is and what they want to be. Much of the imaging process depends on the situation of each individual, and the role they wish to play in life (if indeed they wish to play at all).

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[2] During the Conference Dennis Speer[3] took a number of reels of videotape of participants while they were registering, coming into dinner, and listening to speakers. I sorted through the videotapes and then played portions of them back during my talk. On the tapes it was interesting to see the images being created by some members toward others, and of the ways in which this was being done, particularly when considering such instances as "newcomers" and "oldies," "know-it-alls" and "hey, what's it all about." We had some fun actually diagnosing a few instances; of people and the images they were giving off, especially with regard to interactions at registration and the greetings made by participants who had not seen each other for some time.

[3] I am grateful for the assistance of Dennis Speer from U.C. Santa Cruz for his part in the handling of the visual and audio segments presented.

THE LIBRARY'S ROLE IN THE SUPPORT OF ACADEMIC DEPARTMENTS

Sarah C. Michalak

When asked to discuss the role of the library in the support of academic departments within the general contexts of "Managing Tomorrow's University," I must say that academic libraries are not what they used to be and are not what they will be tomorrow. My counterpart of ten years ago would undoubtedly have begun by proudly relating the size and phenomenal growth rate of the University of California Libraries. Indeed, the combined collections of the UC Libraries provide a princely resource equal in size to other great library collections in the Western World. A decade ago, he or she would have said, "We support academic departments by providing the biggest and best collection of books and journals that money can buy."

However, certain factors make gauging library quality by quantity of materials held obsolescent. First, numbers of book titles published each year in the United States alone have increased dramatically since the early years of library building at the University of California. Since 1930, a year when the two largest UC libraries had begun collection building in earnest[1], U.S. book title production increased from 10,027 titles per year[2] to 39,372 titles per year in 1975[3], an increase in 45 years of almost 400 percent. Second, while libraries have more material available to purchase than ever before, the material is much more expensive. Between 1973 and 1974, American book prices increased by 10.5 percent and between 1974 and 1975, there was an average price increase of 15 percent.[4] Furthermore, the publishing industry has predicted book price increases for the decade of the Seventies totaling 70.1 percent.[5] The combination of having much more material to buy and grossly inflated prices has put a brake on the buying policies of all American libraries, including the Libraries of the University of California.

Third, even if the State of California were granting UC Libraries budget increments to cover increases in cost and quantity of materials produced, we would not have space to house huge new quantities available every year. In a recent report entitled the *University of California Libraries: A Plan for Development, 1978-1988,* the Executive Director of Universitywide Library

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[1] *The University of California Libraries: A Plan for Development, 1978-1988,* Office of the Executive Director of Universitywide Library Planning, Berkeley, 1977, pp. 12-15.

[2] *The Bowker Annual of Library and Book Trade Information,* R.R. Bowker, New York, 1971, p. 67.

[3] *Bowker Annual,* 1976, p. 179.

[4] *Ibid.,* p. 181.

[5] John P. Dessauer, "Library Acquisitions: A Look Into the Future." *Publishers Weekly,* June 16, 1976, pp. 58, 66.

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Planning estimates that at present all UC Libraries are "(space) deficient by almost 200,000 square feet."

In practical terms this means that, at Berkeley for instance, a million volumes are stored off campus at Richmond. Offsite storage areas exist or are being planned at other UC campuses. Accessibility of these volumes is seriously reduced. A cautious State government has made projections into the future based on publication statistics like those above and realizes that at current growth rates alone, according to the Executive Director, we will need 3/4 of a million more assignable square feet of library space by the year 1987, just to house our collections.[6] Furthermore, it is painfully obvious that as inflation affects book costs it certainly affects the cost per square foot of new library space.

Therefore, UC Libraries, libraries everywhere, and even library users are reexamining the missions of libraries to determine whether or not the old goals of buying as many titles as possible, cataloging them, and storing them are the best possible ways to support academic departments, given prospects for continued expansions of the publishing industry and prospects for continued decline of purchasing power of our dollars. For instance, Daniel Gore, a prominent American librarian, says, "Depressed scholars tell puzzled administrators that the Harvard Library of today, with its nine million volumes, is less adequate to the needs of its users than a century ago, when it was a fraction of its present size."[7] The message in this little quotation is clear as Eldred Smith, a much respected academic librarian and previously a librarian at Berkeley, states it. Librarians "(recognize) the need for more selectivity in collection development as a result of decreasing acquisition purchasing power . . . (and) are being forced to deal more continuously and directly with the departments to whom they relate. Such librarians must develop a full and intimate knowledge of the programs and plans of these departments as well as the individual research interests of faculty and graduate students."[8]

Thus, we may no longer strive to acquire every published work to serve academic departments, but our first and most important work will always remain the careful, intelligent development of our collections.

Ironically, it is much more difficult to build smaller, more relevant collections than it is to purchase every title marketed. In order to be more selective, librarians are achieving the closer working relations with faculty members which Smith predicted. The trend is so clear for academic libraries in general that one author reports, "Because of their indefatigable determination to make resources and services of the academic library contribute more effectively to the instructional programs of their colleges and universities, academic librarians have now become active participants in educational policy decision matters. No longer are academic librarians 'handmaidens' to the faculty, they are now a part of the faculty, thereby making certain that the library truly undergirds the instructional and research programs of academic institutions in America."[9]

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[6] *The University of California Libraries: A Plan for Development, 1978-1988, Op. cit.*, p. 149.

[7] Daniel Gore, "Zero Growth: When Is Not Enough Enough? A Symposium." *Journal of Academic Librarianship*, Vol. 1, No. 5, 1975, p. 4.

[8] Eldred R. Smith, "Changes in Higher Education and the University Library," in E.J. Josey, ed., *New Dimensions for Academic Library Service*, Scarecrow Press, Metuchen, N.J., 1975, pp. 39-40.

At the University of California librarians are just beginning to be "active participants in educational policy decision matters." In 1975, President Hitch recognized the Librarians Association of the University of California (LAUC) as an official University organization charged with advising the University on all matters relating to libraries. All members of the Academic Librarian Series belong to LAUC and our organizational structure parallels that of the academic senate. LAUC committees are now advising systemwide library planners on such problems as cataloging backlogs, library automation, staffing formulas, and employee development. The great significance of LAUC at this time is that it provides an organized, official channel for librarians throughout the system to advise the University on library problems and on how libraries may better support the missions of the University of California.

While librarians working through LAUC engage in a dialog with University administration, we also realize that an on-going dialog with faculty members is even more crucial. If librarians do not know faculty plans, they cannot prepare the library for support faculty research or teaching. Too often an academic department has spent years planning a new program, recruited students and then a few days before the term began, have brought to the library lists of material needed. A notable exception to this process occurred at UCR in 1971, when faculty planners began work on the UCR-UCLA seven year M.D. program. Librarians were asked to prepare a library budget to be submitted with the program budget. We asked for and received two years of lead time to purchase necessary materials, hire a librarian subject specialist, and install a Medline station for computer assisted literature searching. As a result, new faculty arrived to find a nearly complete library facility equipped to meet many of their teaching and research needs. I'm sure there are a few other examples of such library planning on other campuses; but the examples are still too few.

Librarians have taken another step to enhance communication with faculty members. Using our status as academic employees of the University, we are asking at various campuses for the privilege of being official visitors on several divisional Academic Senate committees. Senate Committees on Courses, Educational Policy, and the Graduate Council are especially important because they deal with matters potentially relevant to libraries. Librarians, who are official visitors of these committees, track program and curriculum changes and attempt to purchase library materials ahead of departmental developments.

Still, we have to carry communication one step further in order to support campus academic programs. Many librarians on every campus initiate one-to-one discussions with individual faculty members to determine their particular needs. In these conversations, carried on differently on every campus, librarians are not only able to learn about faculty needs for books and periodicals, but also for non-print materials such as films, tapes, and slides. These direct contacts with faculty members give librarians invaluable opportunities to talk about library instruction programs for students (that is, organized instruction by librarians about how to use the library), and discuss the availability of computer assisted literature searching. On some campuses, librarians have been invited to visit departmental faculty meetings as the professors deliberate over course and program content.

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[9] E.J. Josey, *op. cit.*, p. xi.

From the information provided through LAUC, Senate committee visits, and departmental visits, UC librarians are beginning to do one of the most difficult of all tasks; that is, to prepare an extensive, long-term collection development policy for the UC libraries which will strike a perfect balance. Somehow, we must find a balance between the zero-growth model espoused by many and the traditional pattern of library growth that we have followed up to this decade. In the traditional pattern, of course, "the model of the library is based upon the . . . intuition that to be good, a library must be vast and always growing,"[10] just as knowledge is always growing.

In a zero-growth library system, each campus academic community would decide on a "core collection" of books without which that campus's particular teaching and research programs could not be continued. Selections would be made by a combination of book usage studies and a semi-subjective selection process done by librarians and professors. All extraneous material would be sent to off-campus regional storage centers. Each time a title would be added to the core, one would have to be removed. This is known as a "one in, one out" policy.

I should remark here that although there are many proponents of the latter policy, particulary among administrators who see it as an alternative to devastating capital investments for buildings and difficult book budget increases, librarians and faculty members have considered it to be undesirable. The book one professor deems to be peripheral could provide crucial information to another.

It seems to me that some libraries are very close to finding the middle way. Elsworth Mason, Director of Libraries at the University of Colorado, has described a combination of measures for a multi-campus university, which should, if taken together, help relieve building and budgetary pressures and still allow us to support the academic endeavor. He suggests providing "(1) As rich a local collection as you can possible generate; (2) a local storage library; (3) regional storage libraries; (4) a national or international megalibrary which would hold as close to total holdings of world book production as possible," and finally as much cooperation among these segments as possible.[11] *The University of California Libraries: A Plan for Development, 1978-1988* posits an almost identical range of library service points ranging from the departmental reading room to international library access. The entire range includes the "megalibrary" (the Library of Congress) and ascribes to each level an appropriate turnaround time for library materials from the time material is requested at the campus level until the time it is received by the requestor.[12] As the broad scene at the University of California begins to unfold through long range planning and systemwide policy, development librarians on the local level are working to serve academic departments and to maintain the high quality of the collections through these changing times.

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[10] Daniel Gore, *op. cit.*, p. 4.

[11] Elsworth Mason in Daniel Gore, "Zero Growth: When Is Not Enough Enough? A Symposium," *Journal of Academic Librarianship*, Vol. 1, no. 5, p. 7.

More and more frequently, librarians scrutinize titles suggested for purchase with an eye to quality of scholarship represented in the matieral and specific usefulness to one or more faculty members both locally and statewide. In order to save precious resources, two or more campuses often jointly plan to purchase only one copy of expensive or esoteric materials. Systemwide officials encourage us to use a percentage of UC's total library budget for shared purchases of rare or special items, thus allowing the whole system to profit from one copy purchased.

Librarians work with book sellers to prepare detailed and extensive purchasing plans based on the program on the individual campus. Books on the subjects covered by the plans are mailed to the library and are displayed for librarians and the campus community to examine. Books not approved for purchase by an authority are returned to the bookseller. Throughout all of these endeavors librarians at the University of California are trying to purchase no more and no fewer library materials than are required to support UC teaching and research.

I have spent a great deal of time on the service the UC Libraries render through selection and housing our great library collections. A third crucial responsibility we have in support of the academic endeavor at the University of California is to make the information contained in all of this carefully-purchased material available to the campus communities. The card catalog has been the traditional method of providing access to library materials, except at Santa Cruz, where librarians have used a computer to produce a book catalog. Here again times are changing.

Librarians are becoming more and more dependent on national networks for cataloging data. It is becoming less and less necessary for every library that buys a certain book to describe the book, apply a call number, and have cards printed. Librarians can depend on the cataloging and card production done at the Library of Congress and other major libraries for the *National Union Catalog*. The Ohio College Library Center (OCLC) and the Stanford BALLOTS program are two other important networks which provide cataloging information useable by hundreds of libraries. Both OCLC and BALLOTS are special because they provide on-line computer based access to cataloging data from libraries across the nation as well as from the Library of Congress's *National Union Catalog*. BALLOTS is especially promising because libraries connected on-line to the BALLOTS computer can do subject searches in addition to the author-title searches provided by the OCLC program.

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[12] *The University of California Libraries: A Plan for Development, 1978-1988*, op. cit., p. 50.

Before many months elapse, you will begin to see computer terminals available in public areas of several UC campus libraries. The terminals will be connected to either OCLC or BALLOTS. By 1978, your approach to finding material in the library, at certain UC library locations, could begin with a search in a regular card catalog. If you cannot locate a title in your home campus catalog, you will be able to step to a computer terminal, type in your request and receive a display of locations where the title can be found.

This process may seem futuristic, but several libraries in the nation have almost completely abandoned their card catalogs for computer production and searching of cataloging information. The libraries at Ohio State University are a good example. UC libraries are being impelled along the path of computer based cataloging by the mandates of President Hitch's 1974 Library Policy Task Force. The Task Force developed four main points, which in themselves are broad but clear statements of how UC libraries should support academic departments. Those points were:

> "1. The library holdings of all the campuses should be considered as a single University collection rather than nine separate collections.
>
> 2. The University library collection should be developed and maintained in close relation to the University and campus academic plans.
>
> 3. Policies for acquisition and operation should be designed to make the most effective use of available funds.
>
> 4. Each campus should have a collection which, in conjunction with other elements of the University library system, is fully adequate to support the programs of instruction and research approved for the campus."[13]

I have already discussed matters relating to the last point in the section about collection development. Certainly policy makers are correct in that one University collection instead of nine could be potentially advantageous for faculty and students at the University of California. In order for this idea to be effective, we must have an excellent interlibrary loan service. We accept requests for library materials from faculty and students, which are not held at the local campus. Librarians use union lists of books or periodicals, as well as liberal use of intercampus telephoning to locate the requested material at other UC libraries. If we locate the material, we send requests, aiming for a five to ten day turnaround time between date of request and return of material from the lending library. In the case of periodical material, a free photo copy is returned to the requestor if he is a member of the UC community.

Interlibrary loan is a good idea and has been a common service in American libraries since the turn of the century. For decades, libraries have felt it a professional obligation to lend nearly all material or at least copies of material whenever possible at no cost. However, inflated prices and demand have taken their toll on interlibrary loan. The large libraries like the Library of Congress, Harvard, Stanford, Berkeley, and UCLA are discovering a high level of frustration among their own local patrons as they find that library materials that they want have been loaned to scholars at other libraries.

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[13] *Ibid.*, p. 21.

Recently, Berkeley's interlibrary lending section reached a staffing and funding crisis which provoked a decision to charge borrowers outside the UC System $8.00 per loan. It has been more difficult for Berkeley interlibrary loan to offer top priority treatment to other UC campus library users. The problems at Berkeley have encouraged UC users to exploit smaller fine collections at other UC campuses and has certainly shifted a new lending load to UCLA. However, despite Berkeley's troubles, and UCLA's growing burdens, the two large campuses remain at the hub of UC's lending and service networks. Buses run six days a week from the smaller schools in each region, north and south, to the two large campuses and back again. Berkeley has recently expanded her access to resources, as well as her library clientele, by means of a formal reciprocal lending agreement with Stanford University.

Interlibrary loans, lending networks, and jitney service, as well as intercampus telephone and teletype service are all means of blurring the separateness of the nine campus collections. These in turn are an attempt to make the best use of UC resources and to give the best possible support to the academic endeavor in California. Librarians have emphasized to State planning officers that the nine campus libraries cannot work as one collection if we do not provide to all UC users access to the authors, titles, or subjects of the collected library materials. There has been disagreement as to how this can be done. In the early sixties, librarians envisioned book catalogs, actual printed copies of the cards in card catalogs. Sophisticated automation technology has brought us a new idea. We now think that by using either the BALLOTS or OCLC system, which I mentioned earlier, plus a system of computer terminals located in convenient public areas on the local campuses, we can give users of all the UC campus libraries access to the holdings of each of the others.

Computers are a major part of the UC libraries' support role in two other ways. For many years, reference librarians have helped students and faculty members locate information in the libraries. Only a few UC reference librarians have had the luxury of time to prepare specialized on-call bibliographies for our patrons. Now the computer can make the preparation of individual bibliographies possible. Computer assisted literature searching provides efficient access to the millions of periodical articles published every year. A computer assisted literature search can produce a tailored list of many journal articles in minutes. Similar searches done manually can take from three to five days depending on the expertise of the searcher. Health professionals were the first to have access to computer produced bibliographies, followed by chemists, biologists, physicists, and social scientists. This year machine files have appeared for the humanities and the fine arts. Several excellent files deal with all areas of business, management, and finance.

Before 1977 ends, some UC library users will be interacting with a computer each time they check out books. Using the zebra coding and light pens also used for grocery store and warehouse inventory control, new systems at Berkeley and UCLA will provide machine readable circulation records, automatic fine and replacement billing, usage studies, and rapid computation and analysis of various other statistics. Automated circulation systems are the one application of computers in libraries that we are sure will render immediate time savings for both patrons and library employees. We have great hopes that staff time can be captured this way from circulation areas, to be allocated to other areas. It should be mentioned here that the Berkeley Libraries have a unique delivery system for faculty members, which attempts to compensate for its multiple branch libraries, an over-large manual card catalog and a manual circulation system. The BAKER (after the letters representing telephone numbers dialed) system delivers material anywhere on campus, from any library, within 24 hours.

Eldred Smith has made a fine summary of the changing academic library. "In the past, university libraries have been judged in essentially quantitative terms: the sizes of the collections, staff, and operating budget. Despite frequent verbal recognition that 'the library is the heart of the university,' it has been seen essentially as a repository of printed material, and its functions have been recognized as essentially routine, custodial operations connected with the acquisition, storage, and circulation of this material. In the future, university libraries may well be judged in qualitative terms: the degree to which the assembled collections meet academic program needs, the level of sophisticated service that is provided to faculty and students, the contribution that is made to the educational programs through bibliographic instruction, and the efficiency of basic operations."[14]

Sophisticated service programs including library instruction programs are certainly very much a part of the UC library system today. Librarians on at least six campuses offer formal courses for credit in library research methodology. At all UC campuses, librarians are on call for any individual group in the campus community to explain the efficient use of the libraries for finding information. In the most literal way, the UC libraries are supporting the University's academic mission by helping to teach students to use the library.

I appreciate the opportunity you have given me to tell you about our programs, our problems, and our plans. Faculty members, administrators and librarians are partners in one of our society's most important jobs, educating our young people. We cannot succeed without each other. Middle management at the University of California may have difficulty understanding what direct tie you have to the libraries. You may have noticed that one recurring theme in my statement of the libraries' goals has been better allocation of resources, more efficient management, and intelligent operating procedures. In personnel, in budgeting, in application of computers, and in planning and using our physical plants, we can profit from techniques you develop and refine. In turn, UC's libraries are the repositories of information that is crucial to good management. Cost data, demographic data, and records of pertinent legislation, as well as the broad scope of management literature, is available to you.

There are other ways we must work together. My survey of UC library services today has of necessity been general. Ask reference librarians at your campus libraries to give you and other Management Services Officers tours or seminars describing the special services at your campus libraries. One wide area I have not covered, for instance, is the fine special services offered at the campus undergraduate libraries at Berkeley, UCLA and San Diego. When you understand the many ways UC Libraries can help the academic departments in your own areas, help librarians make the crucial communications links with professors I have described. Administrative assistants for graduate affairs can alert students to library programs, teaching literature, research methodologies, and computer assisted literature searching. Management Services Officers can encourage cooperation between departmental reading room libraries and campus libraries.

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[14] Eldred Smith, *op. cit.*

College and departmental management officers and grant supervision officers can consult librarians when estimating monies required for library services in the preparation of grant applications. Try to avoid duplicating in the departments' purchases of material that is already available in branch or central campus libraries. All of us will profit from more careful resources management.

Finally, remember that libraries exist to provide information. When you need information, call us.

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Charlotte Georgi discussed "Current Literature in Management" at the Conference. She specifically addressed *University and College Management* and *Management for Academic Business Officers*. She and her staff at the UCLA Graduate School of Management Library have compiled bibliographies on each of these topics. These bibliographies begin on page 45.

The UCLA Graduate School of Management Library publishes a series of library reference guides on a variety of business and administrative subjects. The complete list of library publications is available gratis when you send a stamped self-addressed envelope with your request to:

The Graduate School of Management Library
Attention: Charlotte Georgi, Chief Librarian
UCLA
Los Angeles, California 90024

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VIEWPOINT ON EXTRAMURAL FUNDING

61

FEDERAL-UNIVERSITY RELATIONSHIP
A CHANGED ENVIRONMENT

Norman H. Gross

There was a time in the relations between the Federal government and institutions of higher education when agencies of the Government had relatively little concern over the manner in which the institution managed the Federal funds they received. Requirements for accounting and reporting conformed more closely to the traditions of the academic rather than the governmental environment. Procedures and attitudes were directed more to facilitating scientific research than achieving a high level of public accountability. The Government recognized that while it was reaping the benefits of the research products, it was also investing in a national resource. Its support aided in expanding the nation's store of knowledge and in training graduate students in the research process. Higher education was held in high esteem and its benefits were considered socially desirable. Thus support of higher education and tolerance of its administrative practices was understandable.

This agreeable patronage relationship prevailed well into the fifties. However, as Federal support of research in higher education began to increase phenomenally in the late fifties and on into the sixties, it was only natural that the Federal government would begin to devote greater attention to the manner in which public funds provided to the institutions were being administered.

For example, a General Accounting Office study in the late '50's of the administration of contract and grant funds by colleges and universities disclosed some serious deficiencies in the exercise of the stewardship responsibility, the most serious of which were in the area of faculty effort. These findings were a contributing factor in the introduction of the faculty effort reporting requirement.

And in the early and mid '60's Congressional investigations and Committee hearings on the use of funds appropriated to Federal agencies for research also surfaced problems both at the agencies and at recipient institutions in the administering of Federal funds.

As a result more stringent administrative restrictions and controls by sponsoring agencies began to evolve. However, the intensity of surveillance over institutional performance remained relatively low-key.

Also, there was a study conducted in the mid '60's by the Bureau of the Budget, covering the administration of Federally sponsored research projects. In reporting the findings it is quite significant that the Bureau warned against the dangers of over-administration on the part of Federal agencies, suggesting that Federal agencies should look to the universities to upgrade internal administration of Federal funds as a condition to participating in Government sponsored research.

It was about this time that other developments began to sow the seeds of change in Federal-University relationships. First there were the periods of uncontrolled student unrest; for example, the free speech movement and the opposition to the United States involvement in the Vietnam War. These gave rise to a public attitude that institutions of higher education did not have the ability to manage themselves properly. This was accompanied by a belief that in many large research institutions faculty were spending too much time on research and not enough time teaching and working with students. All this served to trigger the erosion of the esteem in which higher education had been held by legislators, agency officials and the public in general.

Then followed the pronounced move of the Government under the Johnson administration toward socially mandated programs. This, coupled with the effects of the Vietnam conflict and inflation, added considerable pressures in the allocation of resources. As a result, Congress and the agencies became increasingly concerned about how effectively Federal funds were being managed and what value was being obtained for the expenditure of these funds. (Many of you are no doubt familiar with the inquiries of Senator Proxmire and others as to the relevance of certain research programs and projects to agency missions.) This was followed by a rapid change in emphasis in Federal support, in which agencies began seeking quick payoffs in research results. This emphasis has stimulated a change by the Government from a supporter of higher education to a consumer looking for a dollar of value received for a dollar of funds expended.

And as we approached the current decade we also began to hear concerns expressed about the relevance of many of the programs in higher education to the needs of the college student. As a matter of fact, here developed a strong belief that higher education, as currently provided by colleges and universities, was not all that important and necessary for many of our youth. Perhaps some of the recent attempts by Congress to influence curricula in the health sciences area through the legislative process is a reflection of this attitude.

So the honeymoon of higher education and the Federal government has ended. It was an abnormally long honeymoon, which makes the relatively sudden change in the character of the relationship all the more traumatic in its impact on the college and university community.

While what I have just described is by no means an exhaustive compilation of events which in one way or another has affected the relationships between higher education and the Federal government, it does provide some indicators as to why the relationship has deteriorated to the point where representatives of the Federal government and the institutions are viewing each other with suspicion and why an almost adversary relationship has emerged.

There is no question that the image of higher education has been tarnished and events have served to change the nature of the relationship with the Federal government. What is significant is the way in which these changes have manifested themselves.

First, and most significantly, has been the mounting pressures for a higher standard of accountability in colleges and universities in the administration of Federal grant and contract funds.

Since 1973 the pace and intensity of Federal audits has increased at colleges and universities. In these audits, expenditures of Federal funds are being examined and measured on the basis of higher standards of accountability than those traditionally practiced in the earlier period of Federal-University relationships—and incidentally tolerated by the Government. As a result, cost disallowances of considerable magnitude are being recommended to funding agencies by Federal auditors. For example, in auditing transfers of costs between Federally funded projects at the Davis, Los Angeles, and San Diego campuses, the auditors concluded that, since many transfers examined were not made on a timely basis and were not adequately documented, they were not acceptable charges to Federal contract and grant funds. As a result the auditors have recommended that the University refund approximately $720,000 to the Federal government. Other audits have resulted in such allegations as failure to document properly or obtain agency approval for appointment of consultants on Federally sponsored projects, failure to maintain adequate vacation leave records and accrue the costs of such benefits to the proper projects, and failure to secure agency approval for equipment purchases. The potential for cost disallowances totals several million dollars and in some respects this is only the tip of the iceberg. It should be noted that in many cases the legitimacy of the costs is not the issue—the problem is a lack of documentation to support the propriety of assessing them to contract and grant funds. In other cases there was an absolute failure to comply with established institutional policies and procedures and Federal regulations.

Another manifestation of the change in attitude has been the attempts on the part of Congress and the Department of Health, Education, and Welfare to effect reductions in the level of indirect cost reimbursements to colleges and universities in connection with their conduct of Federally sponsored research.

The Department of Health, Education, and Welfare assumed during the period 1969 to 1971 audit and negotiation cognizance on behalf of all Federal agencies at most colleges and universities. In subsequent audits and negotiations of institutional indirect cost rates it appeared that DHEW was making a concerted effort, through this process, to reduce the level of reimbursement to colleges and universities for such costs. There were narrower interpretations of Federal costing principles introduced, and more and more demand for data and new methods of allocation to demonstrate that indirect costs being associated with the research function were equitable to the Government.

The DHEW efforts in this matter culminated in the preparation by the agency of a proposed comprehensive revision of Federal costing principles applicable to colleges and universities. Complete adoption of the proposed changes would have reduced indirect cost reimbursements to major universities engaging in sponsored research by an average of 40 percent. At the University of California this would have meant an annual reduction in indirect cost recovery of approximately $20 million. Since one-half the indirect cost recovery is used to fund the operating budget and the other half is used to support a number of special Regents' programs including Regents' scholarships, one can readily appreciate the severe impact the DHEW proposal could have had on our finances. While national organizations representing higher education appear at this stage to have been successful in effecting some modifications in the DHEW position, the matter provides further evidence of the attitudes and pressures at the Federal level affecting the college and university community.

Concurrently, there have been concerns expressed by members of the Congress about the levels of indirect cost reimbursement being made to colleges and universities by Federal agencies. Last year the DHEW appropriations bill went to conference as a result of differences between the Senate version and the House version of the bill. In the conference report on the bill there was language included which directed DHEW "to bring the spiraling indirect cost rates under control." It went on to state that it is "imperative that the Department work closely with the Office of Management and Budget and other Federal agencies to undertake revisions in the indirect cost mechanism, which will result in a significant reduction in funds being diverted into indirect costs. The Department ought to seriously consider including cost competition as part of the grant approval process in connection with the revision."

Fortunately, through the efforts of national organizations such as the Association of American Universities and the National Association of College and University Business Officers, the intent of the conference report was tempered during the final floor debates on the bill but the attitudes which prompted the conference language remain.

In view of these developments, what must be done? It appears that there are three broad courses of actions that need to be pursued.

One, which relates to the matter of indirect costs, has to be, in my opinion, both a national effort on the part of higher education as well as an individual institution effort to correct impressions concerning such costs. Colleges and universities, as a body, must endeavor to educate the Congress, Congressional staffs and Federal officials as to the nature and magnitude of indirect or research support costs being incurred by institutions engaged in higher education. Individually, institutions should educate their faculties in these same respects, since in numerous cases members of the academic community have joined forces with Federal agency representatives in efforts to reduce the indirect cost element in contract or grant awards.

It should be recognized that indirect costs are real costs incurred in the support of Federally sponsored research activity; for example, costs of accounting, procurement, physical plant operations, support operations in departments, and library services. There may be disagreements as to the degree of applicability to Federally sponsored research of certain elements of cost; however, the dollar differences involved in disagreements of this nature are miniscule in relation to the total costs of support organizations. When Federal representatives opine, for example, that the cost of libraries should not be included in indirect cost determinations on the basis that libraries do not benefit the Federal research process, one can readily perceive the lack of understanding of the university environment on the part of Federal officials.

As to the matter of the magnitude of indirect costs, excellent work has already been done at the national level by college and university representatives to demonstrate the impact that Federal requirements, such as those related to affirmative action and safety programs, for example, and national crises, such as the energy problems, have had on the level of support costs which have to be financed by colleges and universities. A failure to recognize these costs as being applicable in part to the research effort could have a severe adverse budgetary impact on the institution.

The other two courses of action have to be pursued by the University of California individually although, in principle, the problems involved are not unique to the University.

First, the numerous specific findings resulting from Federal audits, some of which I have mentioned earlier, have to be resolved. To deal with these problems a University team, which is comprised of knowledgeable Systemwide and campus representatives, has been formed to carry out this responsibility and to conduct negotiations with DHEW representatives in order to resolve the issues. Members of this group met with DHEW officials in December for preliminary discussions. While the various issues could not be resolved, agreement was reached as to how the University would proceed in an effort to reach accord on the audit findings. At this meeting DHEW representatives indicated that they had two objectives in negotiating settlements on audit findings. One was to obtain refunds to the Government where improper charges had been made to contract and grant funds. The other was to insure that adequate systems existed to insure the fulfillment of proper stewardship of Federal funds. Thus it is apparent that an integral element in the satisfactory resolution of the issues will be a demonstration that improvements in administering Federal funds are being achieved, by assuring higher levels of accountability.

This, then, identifies the other course of action which must be aggressively pursued by the University. It is incumbent that a concerted effort be launched to achieve a higher level of compliance with University policies and Federal Regulations in managing Federal contract and grant funds. This will require a total University effort since many of the administrative actions in response to University or Federal requirements are initiated at the academic department level. In addition, in certain areas policy and procedure improvements will be required to make them more responsive to the level of accountability now being imposed by Federal representatives.

These matters are being addressed vigorously by the campuses and the Systemwide Administration. The problems to be solved are complex and an overnight solution is not expected. But a continued, conscientious effort directed to improvements in administrative performance is expected.

It must be recognized that a reasonable level of Federal requirements to ensure that public funds are properly expended must be tolerated. When we accept these funds we accept the obligation of accountability. However, it is only through our demonstration of being responsible managers of contract and grant funds that we are going to be able to resist effectively the demands for levels of accountability that would threaten the science effort.

FEDERAL AUDIT PROBLEMS[1]

John A. Perkins

President Saxon suggested I review with you a serious problem that confronts the University. The problem can only be overcome by an all-out effort to correct the alleged derelictions by both faculty and administration. I speak of audit disallowances by DHEW auditors owing to purported failure of Principal Investigators and their assistants to abide by the conditions of award of research contracts. Federal auditors' findings, which the University is challenging, would have the University repay from $4 to $5 million.

You may well wonder why the University is suddenly confronted with such disallowances when it has been a major recipient of Federal grants and contracts since World War II. I can assure you there have been audits over the years and the University was able to satisfy them without serious problems. That we are now in trouble owing to Federal audits cannot be *entirely* attributed to the fact that we are now audited by DHEW, whereas until 1970 the University's cognizant audit agency was DOD.

The faculty should be aware that during the past 5 or 6 years a significant change in Federal-University relationships has evolved.

From World War II to the start of the present decade the relationship could be characterized as one of understanding and cooperation, with research productivity and quality of mutual prime concern.

This relationship has been supplanted by an almost adversary one. Federal agencies have become more like procurers rather than supporters of research. In the process emphasis has appeared to shift from a primary concern about the research product to accountability for the contract and grant funds. As a result the frequency and strictness of Federal audits have increased.

Administrative practices previously tolerated by the Federal government are now being challenged and higher standards of accountability are demanded. We must acknowledge that over the years, since the way we were recording our fiscal transactions was not challenged, our researchers fell away from strict adherence to University policy and Federal policy proscriptions. In some cases HEW auditors are attempting to apply their now stricter standards retroactively.

For example, in an audit of transfers of costs to Federal contract and grant funds which occurred during the 1971-74 period at the San Diego, Los Angeles and Davis campuses, refunds to the government approximating $720,000 were requested *because* the transfers had not been made within a reasonable time after the initial incurrence of the cost and because there was insufficient documentation available to support the validity of the cost transfers.

Also, the auditors now determine that the University does not have acceptable procedures to ascertain whether equipment proposed to be purchased with Federal funds is already on hand at a campus and available for transfer to a project requiring such equipment.

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[1] This report by Vice President Perkins was given at the Academic Council meeting on March 16, 1977 and is included here because of the seriousness of this issue.

In other audits there has been evidence of failure at various administrative levels to comply with Federal regulations and established University policies and procedures.

For example, departments have failed to maintain adequate leave records to insure charging contract and grant funds with the proper amount of vacation and sick leave beneifts.

Prior approvals were not obtained by principal investigators and others as required by Federal regulations for purchases of certain equipment items from contract and grant funds and for appointment of faculty consultants on Federally funded projects. Required documentation in support of the selection and appointment of outside consultants for Federally funded projects was not being prepared.

This is by no means a total list of the problem areas with which the University has to deal as a result of Federal audits. But it is symbolic of the more exacting demands the government is imposing on the stewardship of Federal funds. This stewardship calls for cooperative effort between the academic side of the University and the business side beyond what has existed.

The University as a result of these audits must do two things and both must be understood by all those involved in the University's governance and general well-being. The first is to satisfy Federal authorities; that is, our administrative policies now conform to Federal requirements and, equally and perhaps more important, are being completely adhered to.

Thus, much of the University's effort to date has been directed to improving our policies and procedures and more importantly to cause all faculty and staff personnel to be aware of the need for higher standards of administrative performance. To this end each Chancellor has set up special groups to establish a system of carrying out these objectives of procedural improvement and administrative controls to insure adherence.

This has to be a total University effort. While many actions are consummated at the central administrative level of a campus, much of the initial execution to respond to contract and grant fund requirements has to occur in the academic organizational units, the departments, its sub-units, professors and with Principal Investigators.

The Regents, at their February meeting, decided to employ Haskins & Sells, our external auditors, to make a special audit to ensure that we are proceeding according to plan. Their auditors will be visiting each campus between now and June.

We recognize that undue attention to administrative details can have a serious adverse impact on research productivity.

Secondly, the University is faced with a significant task of trying to satisfactorily resolve the specific audit issues which have been identified. As I've mentioned, several million dollars of costs charged to Federal contract and grant funds have been or are subject to challenge as to allowability.

We hope that our actions to improve UC's policies and administrative performance will have a tempering effect on the demands of the Federal government for financial restitution. On this score, I'm not very optimistic.

The improvement in adherence to policy will please the higher-up executives and even interested committees of Congress. It is said that that is what they expect, and their desire is not to recover funds except where there has been downright fraud or pilfering. There have been no such findings in these audits.

Yet, the Regional Auditors are left with their audits, which they cannot certify as satisfactorily closed matters. As a result of the audit findings, their superiors are expecting some kind of financial restitution, even if only a compromised one. The University of California will not settle on a compromise basis on large sums arrived at by sample audits and extrapolations. Consequently, the HEW Regional Auditors have communicated to other awarding agencies that UC's accounting systems are inadequate for properly administering Federal funds. These other awarding agencies therefore will be making inquiries as to these difficiencies and what we will be doing to correct the situations. Examples so far are EPA, Office of Naval Research, ERDA, and the Department of Commerce's National Oceanic and Atmospheric Administration. Thus far, when these agencies have been met with and have dug into the audits and the claims against us, they have been satisfied with our efforts to correct deficiencies.

We are still going to have to negotiate settlements on audit findings on each specific audit where objections have been raised. We are in the process of doing this now on those campuses where costs have been questioned.

There needs to be a wide involvement of the faculty in these audit matters and what must be done to correct them. If this is not obtained—adherence to policy required by the Federal government—the penalties will affect everyone. Dollars will be diverted to refund improper expenditures and new contract monies possibly will be withheld owing not to the quality of the research proposed, but rather to some colleague's poor management of his Federally related resources.

QUEEN VICTORIA'S CHAIR

John H. Stanford

In Queen Victoria's days, I understand she had one aide whose sole responsibility on State occasions was the Queen's chair. When the Queen sat, she looked neither to the right nor to the left, and certainly she did not look back. The aide's job was to see that the chair was always there. In universities, one can think of the faculty researcher as Queen Victoria and business and finance administration as the aide in charge of the chair.

Now, however (to update the analogy), we find that the "chair" has become much more elaborate and expensive, and that the Federal government owns and pays for part of it. Not surprisingly, the Federal government has developed a great many rules about the use of the "chair," and threatens to take away its money if not satisfied. Some of these rules are sensible; others are impractical. Obviously, the job of the Queen's aide has become much more complex. There is now another party to be satisfied, besides the Queen. If life is to be bearable, the aide will need to have some cooperation and understanding from the Queen and from the Federal owners of the "chair" as well. Even then, the aide will have to handle much more difficult problems now than in the old days. If we add that the Federal "owner" of the chair often changes his mind or sends several different people to speak up for him, each of whom may interpret the rules differently—well, you get the idea.

With that modest analogy in mind, let us turn to the matter of administering Federal contracts and grants for University research. The situation is certainly becoming much more difficult and more complex, but I do not think it hopeless. It is a tough administrative problem, but I believe that in the long run solutions can be developed. We need to understand first, what has happened and why things are different now; then we need to seek an effective, creative response to the present situation.

One natural response is to say, "Why don't they go away and leave us alone?" This is neither effective nor creative, however. The amount of public money involved in research these days is so large that public universities, and all universities which accept public funds, are asked to be somewhat more accountable. This is not unreasonable. These added conditions and controls accompany the money; basically, the only alternative is not to accept the money. However, this is more theoretical than real as an alternative, because of the financial dependence which has developed upon these fund sources.

So, if neither of the apparently "simple" solutions ("leave us alone," or "don't accept the money") are practical, we need to understand the new and rapidly evolving situation and work together to deal with it effectively. None of us alone can really see all the facets and implications. We need open communications and trust so that all of us within the University can share our understandings and ideas about this complicated situation. We should try to understand the needs and motivations of people in the Federal government, too, and communicate with them to increase their understanding of our problems and ours of theirs. Systemwide Administration is trying to provide a communication center to help this process.

Let me state other basic considerations which underlie the response which the University is making to the criticisms of Federal auditors and officials. First, the academic values and purposes of the University have to be the primary consideration. Accounting and other administrative processes have to serve those values and purposes. No University ever achieved greatness through its accounting system. What we can say, though, is that intellectual integrity and devotion to truth, which are primary academic values, should also apply in our administrative processes. Accounting systems are not primary, but it is hard for academicians and administrators to get along without an adequate one.

Second, I believe that excellence in teaching and research is compatible with excellence in administration. Under present conditions, I would go further. A university cannot in the long run maintain academic excellence without an accompanying excellence in administration. But this excellence has to be in a kind of administration which is suitable to the distinctive character of a university. Academic freedom and independence of action and flexibility are compatible with accountability and are essential for excellence in University administration. Universities really are quite different from other public agencies. The University environment does, as you in this group particularly know, require an administrative sensitivity to the values of the University and to the environment necessary for teaching and research. While we must understand that Federal and State officials also have their devotion to the public service and their proper sense of administrative responsibility, we cannot allow them to remodel universities to fit their own administrative concepts and convenience or to make universities become in effect agencies within the State or Federal Executive branch.

Therefore, it seems to me much better for all concerned for the University to manage our own affairs and to do what has to be done for excellence in administration. If there is a vacuum of inaction in University administration, it will be filled, by people outside the University if in no other way. The self-interest of the University makes it wise to handle our own administrative affairs effectively, and responsibly, and with a sense of accountability. Then we can be more credible and effective in asking others outside the University to exercise restraint in their controls and to allow us the necessary independence and flexibility. This self-interest needs to be communicated to all concerned in the University.

Third, I believe that universities are particularly difficult institutions in which to introduce change, and properly so. To some extent, universities are deliberately structured to make it hard to change them from outside or from the top or from any other single source. Academically, that has been part of their strength and value. One cannot take hold of a university the way that one can take a private corporation and shake it and change it from top to bottom in a fairly short time. This is good, in that universities are more stable and protected. However, this protection is not complete, nor can it properly be complete. If protection seems too extreme, so as to foster self-centered arrogance or a kind of unresponsiveness which does not relate to academic purposes and values, ways will be found in time to change the University from the outside.

Applying this to our Federal audit issues, we must discriminate between those things externally imposed which we should wholeheartedly oppose and those which are reasonably required and with which we should hasten to comply. We have to concentrate on both facets, showing both that we can administer our own affairs effectively and that increasingly detailed controls and requirements are not needed. In fact, such controls and requirements may work against more basic Federal and State interests. To get quality research, one must not impose administrative conditions which work against it. To show accountability, however, we must not fail to comply with the requirements which accompany funds.

It is not unusual in administration to try to reconcile apparent opposites and to find some new, creative and effective way of dealing with pressures and demands. In fact, it seems to me characteristic of administration. In the University of California, one can see both the value of the unity of one great university, and of autonomy, which gives campuses and academic units much freedom of action. One can see the value of academic supremacy, since academic people are the most valuable resource of the University, and at the same time see that administrative ways and means have to be provided even though they involve some restrictions on academic people. Finding an effective balance is the essence of the game. I'm sure you spend a great deal of your time, as I do, trying to understand the limits within which you are working to identify the several apparently imcompatible elements with which you can work, and with these limits and elements trying to get the job done.

In short, in relation to the Federal government, some of the limits have changed and some of the pressures and elements are different. We have to adjust, respond to the new limits, establish our ability to handle our administrative affairs well, and seek to demonstrate to those outside that it is in their interest as well as ours to modify some requirements which do not help get the job done.

Your group and its leadership have been perceptive in understanding this complex situation with regard to Federal research administration. It has been helpful to us in Systemwide Administration to communicate with you and with your Steering Committee. Systemwide recognizes the distinctive role of the academic business officers in solving these problems. We welcome your interest and participation, and trust that this relationship will continue. Some of these problems will be with us for a long time.

With this background, let me then discuss three things we are trying to do with regard to sponsored research administrative problems related to Federal audits.

One, we are trying to help bring about internal improvements in University administration where the external rules require them. As a matter of fact, internal University rules also require that improvements be made in some of these administrative matters, so we need to implement both Federal and University requirements. The difference is mostly in the degree of documentation which Federal auditors would like to require, which in some cases we feel is impractical and unnecessary.

Second, we are trying to improve and make more effective our relations with the Federal officials and agencies involved and with other universities and national educational groups with whom we have common interests. We are attempting to get to the people at the higher level who are the source of some of these requirements or who should be more aware of their policy importance. We have to deal with the auditors, but it is also fruitful to get back to people who originate the rules and try to get them to think again about their purposes or to clarify interpretations and to try to get greater equity and consistency in broad Federal policy. We have also been dealing at higher Federal levels in terms of settlements of specific issues. In view of the large sums of money demanded of us and the open-ended obligations which might be involved later, we have had no choice but to go to Washington to attempt to resolve some of these large issues at whatever level we have to go. In the case of indirect cost issues, this has already meant going to the DHEW Appeals Board.

We have at the same time been trying to get some of the specific issues handled at a lower level, project by project, rather than in large lump-sum dollar estimates. Instead of general challenges to our processes, based on a small number of cases, which are extrapolated into proposals that the University refund hundreds of thousands of dollars, we feel that if particular expenditures are challenged it is up to the University to respond specifically and attempt to satisfy the sponsoring agency that the expenditures questioned were allowable. If we cannot, there will be some disallowances. But they will be specific, and we will know where they occur. The impact of the disallowances will be close to the people who are responsible for administering the projects rather than scooping off University money "at the top," which would affect everyone equally, whether they had been conscientiously handling research projects or not.

This approach may involve considerable work for some people at campuses, including all of you, but it does give you a chance to respond directly if there are audit criticisms of your organizations. We believe the Federal judgments as to allowability and adequate documentation should more properly be made by the sponsoring agency people, with whom you work throughout the administration of a contract or grant, and not by auditors who are remote from this process and who do not have responsibility for program results or quality of research. Audits provide facts and recommendations, but individual auditors should not be administering Federal programs by their judgments.

Third, we are trying to increase the amount of communication and understanding in the University about these matters. We have at times had more help than I would have wished from the press. However, in retrospect, although some of the new accounts were inaccurate they did, I think, convey to the University itself the real urgency and seriousness of the problem. This did, perhaps, help improve communications within the University.

I am told by many campus business and finance staff people that there is now a greater understanding of the reason why things have to be handled so they will stand up under audit. It is irritating, particularly when the documentation or approval or other requirements seem burdensome, but I think the problem is more widely understood among academic people now and at least they do not think we university administrators are just trying to make their lives more difficult. I believe there is now a little more sense of unity and common purpose with regard to these problems. Some elements of the problem have to be dealt with on a Systemwide basis and others in campuses and academic departments. Some have to be done by academic officials; others by administrative staff. I believe this, also, is now more widely understood.

We have encouraged campuses to have programs for training and improvement, but have allowed each campus as much discretion as possible in its approach. Campuses are, in fact, very different in their administrative styles. We try to keep informed of the progress of these efforts. We do feel that these problems will not be solved simply by putting out directives. That is only a starting point. Campus programs do need to involve training, better systems, and use of all the other tools that administrators can think of.

I have been encouraged by your group's emphasis on wanting to participate in the development of campus administrative procedures and policies. We will continue to encourage people in central campus offices, with whom we deal, to utilize your help. I hope you will continue to express your active interest. I think the faculty, too, need to participate more than they have been in developing these policies and procedures and training programs and other campus activities to improve the administration of sponsored research. These matters are becoming too important to be left by the faculty to us administrators and staff.

We have also encouraged campuses to look at the responsibilities for these matters which are assigned to various people on campuses. This includes academic business officers and many others. It may seem to some of you that perhaps we in University Hall should specify who should be responsible for what, but I think in the long run you would probably rather not have us do that. I believe assigning these responsibilities involves choices that campuses should make, determining the responsibilities of departmental chairs, principal investigators, academic officials, academic business officers, campus accounting and personnel officers and others, and should be done by the Chancellor and the campus community. We are not trying to get the same pattern everywhere. Our interest is that responsibilities be as clear as possible and that the people involved understand them.

How much success are we having? I do not know. Perhaps some of you in our discussion later can let me know whether our messages are getting through and whether we are getting effective results or not. We are using audits as a way of keeping informed, as well as formal and informal reports, meetings, and campus visits. You will find the University internal auditors and Haskins and Sells, The Regents independent audit firm, auditing the area of research administration and particularly the issues which have been raised by Federal auditors. This is not a punitive effort, but a help in making sure that we all get an accurate sense of what is going on. In large organizations this is sometimes terribly hard. We have said that we will correct some of our operations, if given some time. If, in fact, we are not yet doing so in some respects, we had better be the first to know—both at campuses and at Systemwide. The auditors are there simply for a straightforward, fact-finding purpose to benefit all of us. If operations have, in fact, been brought into compliance, it is useful to know. If not, we need to know that, too, and to understand why some problems still exist.

With regard to our external efforts, I won't say much more. The change of administration in Washington increases the unpredictability. A new administration does seem at first somewhat more inclined to listen, and to be responsive to indications of stress and complaint. New administrators do not feel responsible for their predecessors. But what their response will be is not yet clear, and by hearing from many people the new administrators rapidly get a sense that the problems are not as simple as any one group makes them sound.

Universities do not speak with one voice, of course. For example, one reason Federal officials put pressure on to reduce payment of the indirect costs of Federally sponsored research to universities is the complaints they hear from some university faculty members, who feel that research money is being diverted into mere administrative costs. It is hard to get people to see the larger perspective, and this is true within universities as it is in Federal agencies.

Panel Discussion
VIEWPOINT ON EXTRAMURAL FUNDING[1]

Norman H. Gross
Craig L. Michalak
John A. Perkins
John H. Stanford

CRAIG L. MICHALAK

In higher education, the University of California receives the largest share of Federal funding support in the nation.

We are all aware that the University has to face an era of increased Federal control in the management of extramural funding. In the past two or three years, we have encountered problems owing to the consequences of Federal audits of our contracts and grants.

Let's consider the impact of our role and responsibilities as academic business officers in the monitoring and control of extramural funds.

JOHN A. PERKINS[2]

The consequences of these audits could be very serious if the disallowances claimed by the Federal auditors are actually sustainable, necessitating reimbursements to the Federal government. The President, working with the Chancellors and the appropriate committees of the Academic Senates, is bringing to their attention the necessity of the University to abide strictly by the provisions that we accept in contracts and grants with Federal agencies. The Controller and I are working with the Accounting Officers and the Contract and Grant Officers on the campuses. With all these approaches, however, we will not achieve the compliance that the Federal auditors expect without complete understanding and cooperation of the laboratory and departmental business officers who work with the Principal Investigators and Department Chairpersons. You are, so to speak, "in the trenches" with respect to the University's compliance. You are, for example, the group who can in the first instance make sure that equipment is not purchased in disregard of the contract specification prior to approval of the granting agency; that vacation and sick leaves are properly recorded; and other similar obligations are followed.

MICHALAK[3]

The U.C. Academic Business Officers Steering Committee has compiled responses from each of the nine campuses in regard to problems in meeting audits. We think that the following issues are of utmost concern to departments.

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[1] This article follows the content and format of the discussion at the Conference.

[2] This paragraph is excerpted from a letter from John A. Perkins to Craig Michalak dated October 19, 1976.

[3] The input from the Academic Business Officers is taken from a letter from Craig Michalak to John A. Perkins dated March 3, 1977.

Need for Information

Departments need information about what they should do to meet Federal requirements. We recommend that campus committees studying guidelines and developing procedures for compliance and documentation be broadly based to include faculty and academic business officers responsible for implementation.

SYSTEMWIDE[4]

We will continue to emphasize to central campus administrators the need for providing departments with information about Federal requirements. Including faculty and academic business officers in the development of procedures and requirements is, as you indicate, an excellent practice and one which we also encourage.

Vacation, Sick Leave, and Compensatory Time Accruals and Leaves

MICHALAK

This is a key issue. There are no University procedures or methods to uniformly handle the problems of accruals and leaves tied to variable time of employees paid on more than one fund.

SYSTEMWIDE

There is a need for improved procedures for handling the recording of these items, where there is variable time and more than one fund. The long-range solution will be to handle vacation and sick leave accruals as an employee benefit, contributing by a percent charge related to payroll to a reserve sufficient to pay for vacation and sick leave time taken. A draft of a UCSA directive on this is being reviewed at campuses now. We do not yet know how soon this can be provided, but in principle it seems clearly the best solution. Meanwhile, as a short-range matter, the present Federal requirements must be met by manual procedures in the departments and by careful budgetary control. A Systemwide bulletin has been drafted which provides the necessary information for more uniform handling. As soon as this has been reviewed and discussed with campuses, it will be issued. This is also an area where we are encouraging more training activity at campuses, to help people in departments learn how to handle the problem.

Training Programs

MICHALAK

All principal investigators and staff working in the areas of contracts and grants proposal preparation and administration should receive meaningful and comprehensive training on the use of Federal funds. This training should cover systemwide guidelines which apply to all campuses as well as procedures which apply to individual campuses. The training programs should be led by people thoroughly experienced and knowledgeable in all relevant areas.

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[4] The response from Systemwide Administration is taken from a letter from John H. Stanford to Craig Michalak dated April 26, 1977.

SYSTEMWIDE

We are discussing with several campuses a Systemwide program which will help accomplish what you suggest. We visualize a jointly developed program to which all campuses can send a limited number of people who will receive materials and instruction and who will then be expected to help establish appropriate campus training programs. This approach will avoid unnecessary duplication of effort, and make available the resources of some campuses which have training staffs, yet allow flexibility to be retained in the development of specific training at each campus. Our office is prepared to help fund the initial systemwide "train the trainers" program. We will let your group know as soon as more specific plans are formulated.

Internal Audits

MICHALAK

Campus staff do not have the background necessary to integrate all aspects of Federal policies. Systemwide administration should create an audit task force available to visit campuses and departments on request to perform nonpunitive internal audits. The auditors should be prepared to recommend solutions to problems in meeting Federal requirements.

SYSTEMWIDE

Systemwide Administration does have a task force available which visits campuses on request and which has already participated in many meetings and has provided answers to questions. There is also an audit program, which includes both internal auditors and a special audit by Haskins and Sells for The Regents. These audits are not punitive in intent, but certainly will help to indicate areas where both compliance needs to be strengthened and problems need attention.

We would like to see academic business officers, some of whom have much first-hand experience with these matters, used more at campuses as a source of assistance to other academic business officers and departmental administrative staffs. I suggest that your groups at each campus take the initiative and work with campus administrators to make such help more widely and easily available. We will encourage campuses to utilize this approach.

Current Accounting Data

MICHALAK

Departments need timely accounting data to control expenditures within budgets and to plan and direct the use of funds consistent with agency requirements.

SYSTEMWIDE

More timely accounting data which meets departmental needs is clearly very desirable, but is a long range matter because it involves changes in computer systems and facilities. At present, each campus is engaged in a "needs assessment" process, which aims to identify needed improvements in computer-based financial systems and services and to establish the priority and timing for implementation. Under present policies, this process is now much more centered on the campuses than in the past. I urge academic business officers at each campus to make these needs known as well as the importance of attending to them. We at Systemwide will continue to encourage and support such improvements; however, it appears still a matter of several years before the job can be done.

Meanwhile, actions taken by the Systemwide Information Systems and Computing office under new policy guidelines will tend to shorten the turn-around time and reduce the lag between the time accounting transactions occur and the receipt of accounting print-outs and reports. While this will not change the format or amount of data available, it will provide more timely data for campuses and departments. It appears that results from this planning effort can be expected sooner than the above, more time-consuming development of new systems.

Records Management

MICHALAK

The University Records Management Program should be made consistent with requirements for documentation on contracts and grants.

SYSTEMWIDE

The present Systemwide requirements for records retention are consistent with Federal rules, and we are not aware of any problem in this regard. At present, however, campuses have been requested temporarily to hold records relating to disputed audit subjects until these issues are resolved, since there is a possibility they might be needed even beyond normal retention periods.

Direct Time Reporting

MICHALAK

Adequate methods for direct time reporting should be developed. In practice, this area is either ignored or performed on a pro forma basis.

SYSTEMWIDE

A Systemwide directive has been drafted which will clarify the minimum requirements for direct time reporting, including suggested forms for time records. This is being reviewed with campuses.

Response to Federal Granting Agencies

MICHALAK

Each campus is individually responsing to requests from agencies to develop guidelines, procedures, and methods without communicating with each other or receiving guidance from systemwide administration. We should not complicate the administration of grants and contracts with arbitrary policies and procedures. There should be some degree of consistency in policy implementation between campuses.

SYSTEMWIDE

While each campus is individually responding to requests from agencies, there is also a communication system which insures guidance from Systemwide Administration and exchange of information among campuses. Also, there have been meetings at which we and campus representatives have agreed upon overall strategy and approach. Campuses understand that they are to act individually only within the overall University positions, and in fact major campus letters are usually cleared with us informally. This network of communications has developed further since the time of your survey, and your earlier concern is understandable. I believe, however, that by now we have in operation the kind of coordination process which you describe.

Cost Transfer Policy

MICHALAK

Information describing acceptable reasons for cost transfer should be made available to all campus departments.

SYSTEMWIDE

It is not, in our judgment, advisable to provide prefabricated statements which are deemed "acceptable reasons." The essential demand by the Federal auditors is that there be a plain written explanation which states why the transfer was made, why it was originally charged as it was, and how the expenditure benefits the project to which it is being transferred. As you know, Federal guidelines do not allow transfers to be made simply to correct overdrafts, or to utilize available funds, or for reasons of convenience. Also, if the transaction is delayed significantly, the reason for the delayed action must also be clearly stated. It is therefore necessary that the information describing the reasons for cost transfer be specific, and grow out of the facts of the particular case. The general guidelines, plus the kind of review processes most campuses have established, plus training and experience, seem to us the best approach.

Responsibility of Principal Investigators

MICHALAK

The University needs to define the responsibilities of principal investigators. Clarification is needed in regard to what responsibilities are assigned to P.I.'s and what responsibilities can be delegated by them.

SYSTEMWIDE

In January, all Chancellors were asked to review the responsibilities of principal investigators and others involved in carrying out Federal requirements governing sponsored research, and to undertake any necessary clarification of authority and responsibilities. The only restrictions applied Systemwide are those imposed by Federal requirements, such as instances where approval by an academic official is required, or by general policies which govern all University business and financial matters. This leaves some discretion, properly to Chancellors as to how they assign responsibilities and authority within the campus, and we feel that clarification should occur by campus action. This may be an appropriate topic for your members to raise in working with faculty and campus administrators to improve the handling of these matters.

Conclusion

MICHALAK

We feel that by working together campus administrations, academic business officers, and systemwide administration can strengthen and enhance the University's response to Federal requirements. We do not think that it is a department's responsibility to independently develop techniques to meet Federal requirements. Policies, procedures, and methods should be designed by systemwide and campuswide administrations to meet these requirements.

Acceptance and implementation of guidelines will be greater if faculty and academic business officers who deal with these concerns in departments on a daily basis are invited to contribute to the development of new guidelines.

JOHN H. STANFORD[5]

Again, we thank you and your group for your interest and help. You have a key and distinctive role in dealing with some very difficult problems. We appreciate both the constructive professional approach which you are encouraging among academic business officers and the breadth of interest which was evident at the Conference. These audit issues will be with us for some time. We look forward to continuing to work with your group and trust you will continue to let us know how we can help to provide the conditions necessary for effective and efficient academic business administration.

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[5] *Ibid.*

THE NEW HORIZON OF EMPLOYER-EMPLOYEE INTERACTION

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MYTHS AND REALITIES OF HEALTH AND ADJUSTMENT TO WORK

Peter M. Lewis, M.D.

I would like to direct the first part of my talk toward the myths and realities of health and adjustment to work, that is, the matter of better health and also of how to relate to one's work in a way that is helpful and more comfortable and, hopefully, more productive. The second part of my talk I will direct toward the matter of how to instill an understanding of these myths and realities in student and medical faculty in the University setting.

I would like to point out that we are largely what we are born. As far as health is concerned, a great deal of longevity and physical strength is built-in on a genetic basis. As far as heart disease is concerned, for example, (that is, coronary disease) no amount of cholesterol restriction, dietary additions, or even care in terms of stress is going to protect some individuals who have a hereditary stamp on them of fathers and mothers who died of strokes and heart attacks at a premature or relatively early age.

The other main element, I believe, in so many human diseases and ailments, has to do with the mind. Everything begins and ends with the mind and to an extent the intellect. The majority of human disease begins with stress in the mind or feelings of the individual, and the body follows.

I have come to feel that, after almost 25 years of practice, almost no matter what we as physicians do, in the way of fiddling around with people's lives and pocketbooks to some extent by giving them medicines and nostrums and advice, we are not going to change things very much if a person does not and cannot alter his external environment or his internal environment in terms of stress reactions. This concept is so important. I want to leave that thought with you most of all, because as we go along I hope it will become clear to you what must be done in the university of tomorrow—to which this particular conference addresses itself.

Most of the things that we feel and most of our behavior patterns exist biologically in us. They go back to our most remote ancestors. They are animal responses. They are not, for the most part, civilized responses. Look at yourself. Consider the way women feel periodically, and the way men feel as they approach 50, and the way people feel as they get old. All of this has very little to do with the structure of today's society or even with your particular job. The job, the society, the civilization you happen to live in, or the generation you happen to live in, only in an external way colors or molds those basic animal feelings to some extent. You have to remember that all of us are basically animals and are therefore biologic and physiologic beings. We have to remember to mold our lives and our jobs with this in mind.

I wrote an article for the *Western Journal of Medicine* on the "Quality of Life." I would like to read you just a couple of paragraphs having to do with that subject, which focuses upon human nature. Human nature is a very difficult subject to understand, but it is the most important subject for all of us to understand if we are going to be successful business administrators or doctors or gas station operators.

"It seems that several thousand years of recorded human history might have taught us something about the facts of human nature and how human beings actually do respond and to what they respond positively and constructively. If, as Solzhenitsyn says, 'the aim of life for each of us is not to take boundless pleasure in material goods but to take our departure from the world as better persons than we arrived at it, better than our inherited instincts would have made us,' then it follows that the sum of such progressions that can be called the spiritual progress of humanity is a goal that may have something to do with the quality of life, human nature and understanding. What is needed is to define the axioms taught by history. I believe that there are certain axioms having to do with the way we all behave and react, certain axioms that apply to every human being, a biologic understanding of human nature. We should define the axioms taught by history and then use them as guides to improve the quality of life. Some words and phrases spring to mind such as work, respect, personal responsibility for one's destiny, community responsibility for each other, belonging, humor. Other concepts associated with those include opportunity to exploit one's ingenuity, fear and its prevention, or a place or sense of belonging, confidence in self, love. These are word symbols and there is not space in this paper to develop and integrate each of them into the programs to which I allude.

"Nevertheless, medicine, both organized and personal, has a place here. Physicians, particularly those dealing directly with people, are in a position to make some judgments about human nature. Physicians need to be educated in human nature and about how human beings work. There needs to be more education in medical school, and after it, about the relationship between human nature and disease states. Then the physician should, by personal example (how rare that is), try to portray the elements that contribute to personal fulfillment. If these elements are truly axiomatic, then they pertain equally to all humans whether or not they are immediately appealing to them. Work, whether one feels like doing it or not, is probably necessary to a healthy mind. Rewards, material and psychological, without work are pith and of no lasting value. Joy in each day and each hour is a quality that must come from within and the mechanisms for achieving that attitude may be understood by us if we have a sense of history. The answers are before us and it is a matter of utilizing them. If, as I believe, the overwhelming weight of human misery and disease begins in the mind and the attitude, personal and societal, then much more attention must be placed on understanding that.

"This applies to all branches of medicine working together. It is

> not as if technical knowledge need be relegated to a secondary level since it is unlikely that perfection will be obtained, and in all likelihood disease is with us to stay. I do agree that the emphasis should be upon health, while making people aware of themselves and their responsibilities toward themselves and how to help themselves so that gradually each of us will learn to need a physician rarely and to depend upon himself, his community, and his family to maintain himself. Only by understanding how human beings really work and what human nature really is can we hope to succeed in participating as physicians in our opportunity and responsibility to improve the quality of life."

It sounds as if I am talking myself out of a job. I have often said that if it were not for stress and human being's attitudes most hospitals would be empty. We would need only one here and there with an orthopedic ward for fractures and a surgical ward for a few of the non-stress diseases that occur. For the most part, our hospitals and our offices are filled (and they always will be, I suppose) with the results of the mind and the emotion not working just right.

Good examples of this are most heart diseases (congenital heart disease could be excepted). For example, rheumatic heart disease (probably somebody in this room has that disease or has had it and has some valvular defect as a result of it) is influenced by susceptibility to the streptococcal organism in such a way that allergic or sensitivity response in the endocardium of the heart has produced the effects of rheumatic heart disease. Coronary disease is almost certainly personality related. A lot of work has been done in this field, although there are some people who do not recognize this research and feel that it has very little to do with stress. I do not agree, and I feel that there are many examples to corroborate what I am talking about.

People talk about cholesterol, and by dieting, by being miserable most of the time, and by taking a medication or two which can help to reduce cholesterol, think they are in some way preventing an early death from coronary disease or stroke. I do not buy it. I feel that it is good press. It is something for doctors to do. It is something for people to do who believe in it strongly to help themselves. Of course, if you have a coronary problem or if you have a family with coronary problems, it is very helpful to you to feel that you can help yourself by certain positive actions. I think the diet (the evidence is really very circumstantial for any benefit from diet as far as truly changing the course of arteriosclerosis by reduction of dietary fats of certain kinds) is probably most beneficial in terms of the personal discipline involved and in weight control. In terms of really changing things that happen within the arteries, I do not think there is a shred of proof to show that that occurs. Some experiments have been done in rabbits showing cholesterol placques lining rabbit arterials and arteries on high cholesterol diets. These placques melt away when the diet is devoid of cholesterol. These results have never been shown in human beings, and it is really quite a different problem. Rabbits are a susceptible species just as there are certain human beings who are a susceptible species and who have hereditarily high cholesterol problems.

Indeed, you can raise or lower the cholesterol two or three hundred percent in a 24-hour period, not by diet, but by altering stress.

Other examples of diseases which are related to stress are peptic ulcers and the whole host of gastrointestinal diseases. I think a lot of injuries are associated with inner tensions or stress, or have to do with the mind not applying itself to the matter of driving or doing whatever is to be done at the moment. How does one adjust some of these things? We will get into that a little bit later on, but I think there is no question that regular habits and self-discipline have a great deal to do with ameliorating these problems.

Another part of the human mind which behaves to plague us is our little depressions, and this interferes with sleep. Some very interesting work has been done on sleep patterns and what are called REMs (Rapid Eye Motions), where photographs have been taken of the movement of the eye laterally during sleep, and patterns have been seen which, correlated with electroencephalograph patterns, show how that individual is sleeping. That is correlated with how good they feel the next day, how refreshed they are, and their productiveness as far as work is concerned. It has been shown that the greatest deterrent to a good night's sleep is depression. One may not think it is depression. You may think it is excitement or you may think it is this or that, but probably a poor night's sleep followed by inappropriate dreams (or appropriate ones maybe) and a lot of fitful sleeping, intermittent sleeping, and so on, is really depression. One of the best aids medically to a better night's sleep and therefore, a better day the next day, is an antidepressant at bedtime, rather than a sleeping pill. That is why physicians lately have gotten into the habit of using that kind of medication.

Finally, we all have some of the well know centuries—old patterns of behavior—jealousy, projection of one's feelings onto others, paranoia, all of these things—to a limited extent hopefully, but we all have some of these feelings within us. It is a matter of mitigating them and suppressing them to some extent or finding other outlets, or simply learning not to have them, which is the best answer after all. The best answer in human behavior is not to simply suppress one's rages and hostilities (although it is better than showing them) but really to learn not to have them in the first place. I will get into a little bit of discussion later on about how, perhaps, our organizations, our universities, and our jobs, can better adapt themselves to us as human beings and biological beings.

I take care of an old lady who is a sensible person. She and her husband had a sheep ranch in North Dakota for many years. They retired in Southern California and she is now in her 80's. She came in one day looking a little sad and down at the mouth, upset, and I said, "What's wrong?" She said, "Oh, it is my daughter-in-law. She is taking another course at the University." She said, "You know, when she does that she neglects her house, her children, and her husband" (meaning her son). She said it is just awful and then she brightened a little bit and commented that she really feels "sorry for the poor thing because all she has is an education." I think she has a point. I think we all consider ourselves educated people. We would like to be better educated, but that is not the only thing. Sarah Michalak was saying earlier in the Conference, and I think properly, that knowledge is power. I would add one extra phrase to that and I would say that the proper use of knowledge is power. Knowledge alone is not. It is very easy to learn facts, and store them away, and some people really live on that kind of exhibition of how smart they are by pouring out facts to you. Researchers, teachers, and librarians really know how to use facts, and it is that ability (to have some tools and know how to use those tools well) which I believe marks the truly great or expert practitioner.

Now let's consider nervous effects in life and how important they are to us. I take care of a great many people from the University and they have a lot of problems that have to do with nerves and the mind, but for the most part have normal amounts of insight. Herman Speith, who was the second Chancellor at UC Riverside, used to talk about his nervous professors. I would call him up about something and he would say, "You know, I have a terrible time with my nervous professors."

How does mental health relate to work? I think there are certain rules that are helpful in dealing with mental health. I think that any system which we set up for ourselves in terms of our best productiveness, our greatest happiness, and our ability to last for a long time at our jobs cannot depend upon our achieving personal satisfaction based upon competition. The American system, more than any other, perhaps, is built upon competition. I have a brother-in-law who has done very well with Marcor, a subsidiary of Mobil Oil. He is now a Senior Vice President and is in his middle 50's. I spent last week with him and we got to talking about all of this and how he had become as successful as he is in one of the major corporations in the world. He said, "Well, you know, I never really worried about competition or about what the other fellow was doing. I just tried to do the best job that I could." He just tried to do the best job he could, came up with the best answers he knew how, and did his homework.

Any system which encourages excessive competition in the sense of being not good for people, or unhealthy, is not a good system. I think that good, hard, work without excessive competition is probably better for one's health. "Do not think the worst, try to think the best, not only of other people but of yourself and of your job." I believe that if this can be imbued in people, they can think of their jobs as being important. I know lots of doctors (probably more so now than used to be the case because technology is taking over to some extent) who really do not enjoy what they are doing, and do not attach true importance to their daily encounters with people or with things. I think that is a tragedy. I think if you can enlarge upon your attitude toward your work so that it seems important to you (you have to work at that sometimes; you have to say, "you know, that is important; I want it to be important; I will make it important") you will avoid so many of the confrontations and feelings that can make you get sick, and shorten your productive period and also your life. Walk through the day, go slow, stay calm.

I have a patient who is a very successful real estate executive with a large firm who is very high strung. He is in a constant state of turmoil; he always has something wrong with him. He is in the doctor's office at least once a week for something—sore throat, runny nose, headaches, rashes—all sorts of things. He is very good at what he does, but he is miserable. He said, "Well, you know I had to go to Hawaii and get away from all of this pollen." He got on the plane and he said when he was on the plane, his nose dried up, his rashes disappeared. He said he had a wonderful time in Hawaii for two weeks and two and one-half weeks later he was back at my office with a rash and he said, "You know, I just cannot believe it. You have been telling me it is my nerves. I rested completely; I felt just wonderful in the islands. Here I am and everything is back again. It has got to be an allergy." Of course, it is not. It was in part, perhaps, an allergy due to certain things, but in a secondary sense only. In his case it was an allergy to himself and the stress in his work that he produced within himself. All he had to do was to come back to a situation that he had not adjusted himself to, and, since he had not changed it or himself, he was as sick the day he got back as the day he left. He is now learning not to take his life from vacation to vacation or from weekend to weekend. On weekends he plays tennis and then he is exhausted. Then he swims and finally gets to feeling even more exhausted and then goes back to Riverside and starts thinking about Monday again. He is gradually learning to take life, not only on a day-by-day basis, but on a minute-by-minute basis, which I believe is truly necessary if you are going to work this thing out.

As human beings, as biologic beings, we are not meant to live under the stresses we place on ourselves. You look at any other animal and it simply does not live this way. The pup lies in the shade when it is hot, in the sun when it is cold, and when it is tired it sleeps. When it feels good, it runs. Its life is pretty much an unstressed life and it has very few real illnesses. I have a niece who has a horse and she worries about that horse all the time and about what may be wrong with it. As a result the horse is constantly sick, and the Vet is out there all the time. This is an example of what I am saying. We know that stressed animals (race horses are a good example) are animals subject to injury from physical stress as well as emotional stress. The stress is certainly a physical phenomenon in some cases as well as a mental one; but our solution lies in what we can do and the way that we shape our work, or as managers, the way we can shape our offices and the lives of the people who work for us. We have to help those who work for us, and this is just one instance that I am talking about and it is one facet—learn to take the day minute by minute. If they get a little nervous, if things pile up, if there are too many people walking in to ask questions and to interrupt them, then we have to help them stop for a minute. Have them get into a closed room, shut the door, do some paperwork, or just sit and think for a few minutes; slow down, stop the wheels from turning. I would much rather have people (sometimes at first they need a sedative or tranquilizer) learn to do that for themselves and not depend on medications as time goes on. Some people, of course, are just unfortunate enough to have had childhoods and upbringing that generates nervous activity within them. They really cannot control those things in themselves; it is just beyond them. You have to help them with medication, but I think the majority of people can learn, if they simply *will* learn, some of these methods and actions about slowing down.

I have a patient who is a bank manager and who has had a heart attack. Bank managers, under the Bank of America System since Mr. Giannini formed the Bank of America many years ago, have been asked to sit out in front of the customers. Their desks are always visible. You can see that when you go to any Bank of America and most other banks too. They are too accessible. Giannini could do it. He had a personality that allowed him to be gregarious and sit out in front of his people and it did not bother him. But it does hurt a lot of people to be constantly interrupted. Look at yourself, look at your jobs and just see what I am talking about. Consider what happens when your supervisor or ten other people drop in. It is a miserable business to be constantly interrupted. What you need is to get away where you can close the door and get your work done and work quietly until you are finished. The bank manager cannot do that and so heart disease and ulcers are a real professional liability with bank managers. They are too accessible to interruption.

Almost no telephone call is so important that it has to interrupt what you are doing at the moment. Of course, we all tend to want to be accessible in our jobs if we are good at them, so we let ourselves be interrupted too easily. I would ask you to try to work out a different way. In my case, I am very well protected. I have a wonderful nursing staff. Every time I am with a patient I am in a small, closed room. I am not interrupted unless it is a real emergency. I do not just let other doctors come through and talk about something which may or may not be important. I ask the nurses not to let in any calls, but as soon as I am through with that little unit of time and we have completed that subject, then I will make those calls so that nobody has to be kept waiting who is ill. Of course, emergencies are different. True emergencies are rare in any business, in any discipline. Although there are very few real emergencies, responsiveness is important, but one can be just as responsive by putting it off by fifteen minutes and then responding. It is the person who does not respond that day or that week with whom we want to have very little to do. Responsiveness with real interest and taking time to respond properly can be done very well within the parameters of what I am talking about, still giving yourself the time not to be rushed, interrupted, or bothered for a certain unit of time repetitively through the day.

Every day should be a pleasure. The ideal in life is to so enjoy your work that you can just walk through it and never have to take a vacation (none of us are this good, but this is what I would like to have us all be able to do), just like the old fellow running the general store. He simply takes care of things. There is a pot belly stove in the back and he visits with his customers, and he lives to be 90 or 95 and never misses a day's work. That is ideal—if you can construct your inner self to behave internally to that degree—simply make every day a pleasure. Thrive at work, do it well, and don't fear criticism (fear is probably the most important single word in what I am talking about). Fear is what directs so many of our misadventures: fear of criticism, fear of failure, fear of not being liked, fear of not being able to hold our jobs, fear of financial failure, fear of so many things. Almost everybody has some of that and some of all of these things. Fear should be gotten out of our systems, but this is impossible with some people. I have treated some people for 20 years with never being quite able to rule out the fears that plague them every day of their lives and give them all kinds of physical diseases.

Recognition is something we all need. We need to be appreciated just like the pup. We all need to be given some monetary recognition for what we try to do. If you do not get any after awhile, you cannot co[illegible]erate that recognition within yourself. You have to hear it from others [illegible]me extent. Therefore, as supervisors and directors (almost everybody has somebody under them), we should remember that we should give recognition as well as provide an example to those who work for us: by being other-conscious rather than self-conscious, by taking days off at irregular times and then finally the concept that work itself is life—not play, not retirement, not the next weekend or the next vacation—but work is life. It has to be. Work occupies about 70% of our lives, and the rest of the time we are worrying about it if we are not careful. It occupies so much of our lives that it should be a pleasure from beginning to end. It must have texture, and offer reward and individuality.

I went to a Catholic mission in Pala, which is a lovely little Indian community in Southern California. We go about once a month to this particular church because it is a very simple place, a very beautiful place. They have a Mexican priest there. He talks at the level of his parishioners, who are mostly laborers and people who work in the field. It is about my level so I like it and I understand what he is talking about. A couple of weeks ago he said to his parishioners, "without work and without thought weeds will grow." I think the ethic that all play, all planning for that retirement with your wife or husband and sharing the rest of your life together has little to do with living life now. Togetherness and retirement can be wonderful or can be terrible. Yet that is the direction toward which many people singularly give their thoughts to rather than to the great reward and joy of work.

I think financial security is also very important. In our lives we may or may not be interested in financial adventure, but we certainly must be interested in financial security. Without that there is depression. There is anxiety, but it is not difficult if our aspirations are not greater than our pocketbooks. I think an important part of management is to help people. You business administrators will understand it, perhaps better than I, but I would like to see throughout industry and throughout all institutions help given to people, and counseling given to people as far as their financial lives are concerned. It can be very limited as far as their plans are concerned but they must be helped not to over-extend their ambitions financially, and to learn how to invest in a way that will give them security in the future. (Even with all the Social Security programs and retirement programs, which are in general very generous). Some say they are too busy to manage money, yet go on investing in things to which they are too busy to pay enough attention. Money worry causes fear, and that then causes disease.

I have alluded to many diseases that are related to stress, and as one gets older one's physical health tends to deteriorate. We wear out. I have a lovely old patient who is in her 80's and very wise, a black woman whom I have known for the entire time of my practice. I go out to her house and we have a meal together sometimes when I am making house calls late in the evening, and we have a good talk—a wonderful woman. She was talking about something that was wrong with her and I was asking her about this illness that I thought was related to age. She said, "Dr. Lewis, I wouldn't know, I've never been old before."

As far as physical health is concerned, I think the nuts and bolts of fixing, and patching people up are a matter of the doctor using his tools well. I would rather have a doctor who hasn't got quite so many tools that he can talk about, but knows how to use the tools he has properly. I think, also, there is a great deal to be said for wisdom in approaching people's problems with an understanding of human nature. Good medicine involves that, but the application of healing tools is in itself something that anybody can learn—how to put on a cast, how to judge a fracture, how to deal with heart disease. (Again, referring to our biologic ancestors and our lack of understanding of certain axioms, healing rates and one's bodily responses to what is done to fix it are different from person to person although the axioms are the same; and so therein lies a great deal of the art, even as applied to the technical side of medicine, and I am sure this applies to other disciplines also.

All of you are covered by some kind of medical insurance program or should be. (It is pretty expensive not to be these days). You should consider each of the three different kinds of insurance. There is one kind in which you belong to a large group which gives you good, technical, medical care. If that is enough for you, I think that is fine and may be that is the cheapest. That is the kind that the Federal Government will want to dispense because it costs less than any other. Then there is private insurance that covers any amount of medical care you want (that is very expensive). You are covered for the major portion of every office call or every illness, or every stubbed toe. Finally, there is major medical insurance which I think is a good kind to think about, particularly when you retire if you are not covered adequately by Medi-Care or some other social program. I think in terms of major medical insurance just as you do for your car; that is you do not have insurance to cover the oil changes and the minor things that you take your car in for, but if somebody hits you then you have collision insurance. You have insurance that will cover the cost of that major illness of that car, and that is not a bad kind to carry yourself. I know one insurance man who carried $5,000 deductible insurance. His premiums are practically nothing. He figures that he can take care of everything up to that $5,000 and over that he would be covered completely. That is an extreme example, of course, but still not a bad concept in general.

People often want to be covered for everything and expect their insurance to do that. Even National Health, which I think has some real assets with some really good things to be said for it (and that is heretical for me to say, being in private practice), is not going to cover every itch, but it will take care of people who are otherwise uninsurable. I think that is where it has a place, but it needs to have certain built-in safeguards against people's human natures—their inbuilt larcency.

Nutrition is very important in the matter of health. I have under my surveillance a number of elderly women whom I cannot help very much because they eat yogurt and ice cream most of the time, live alone, and will not eat decently. They will not cook anymore for themselves, and finally get to the point where they are out of their heads, literally mentally disturbed, through undernutrition in this land of plenty. Good nutrition is easy, but so is bad nutrition. It is understanding the basic elements of what we all know, what we have all been brought up to know, about the food moieties that we should pay attention to. Therefore, the person who lives alone, as some of you do or may, and who cooks at least one good meal a day, eats three meals a day and, if necessary, sits down by the television to have her cocktail and then her dinner in an organized and structured fashion, is going to live a long time given genetic and inherited strength. The ones I talked about who do not cook properly and who live on nothing will have a bad time and they will not be healthy very long. Those people do much better, of course, once they get to a certain age, in a structured background where meals are provided for them with other people to eat with and that kind of thing, and the doctor has to recognize that.

Everyone makes a lot of the value of exercise. I think the business in jogging suits must be tremendous these days. During the dark winter when I leave the house early to go down to the hospital, I have almost run into two or three joggers in dark jogging suits running along the canal below my house, so exercise can be dangerous. The emphasis on jogging as a method of physical well-being is valid, as it expands and increases the circulation within the heart muscle so that if there is a heart attack, there are other vessels that can be brought into use and the extent of the injury is generally less, I think exercise, whether it is tennis or jogging or whatever, makes a lot of people feel better. I take care (again genetics are involved) of a number of people who are between 90 and 100 who have never gotten out of their chairs, and old ladies who drink tea and sit by the fireside and never exercise to any extent. My only point here is that I do not think exercise is the whole answer. I have no objection to jogging or swimming or anything else as long as it is done progressively, as long as it is not done with vehemence, and as long as it is a pleasure to do. I myself feel better with some exercise. I like to do it, but I think the answer here for all of us is to jog if we like, but better than that or more important than that, to simply use our bodies as we go through our day. How do I mean that? I mean taking the stairs instead of the elevator—if you have an office on the third floor, walk up, and do not take the elevator every time. Walk up and down stairs; walk between stores. When you park your car in one spot, do not drive from this parking spot around the block to that parking spot. Use your body in just everyday things that you have to do such as kneeling, lifting, bending, climbing, and all that. I think, to be honest about it, that your exercise will be very adequate if you do that on a regular daily basis. I could hold my own in most tennis games and climbing and hiking around the Sierra and so on, and I do not jog and I do not do formal calisthenics. I do climb six flights of stairs every morning when I go to the hospital and I move around. I think therein lies the real answer to keeping fit.

Although perhaps not quite so directly a matter of the physical health, over-protectiveness and smothering certainly do play a part. How often have you seen (it is a pity and it is done out of a kind of love, I think) the sick or a little bit sick husband who is smothered with care and concern by his wife, or vice-versa, so that pretty soon he becomes an inanimate jelly-like infant and ceases to really function for himself and think for himself and care for himself? I think it leads to early senility in many cases. It also leads to a lessening of one's responsibilities toward himself. Once again, I say take charge and look after yourself. You must do that if you are going to stay healthy.

Let's consider over-protectiveness, smothering and the concern for longevity vs. concern for the quality of life. Here again, I think it is terribly important for us to be concerned with the quality of our lives rather than just how long we are going to be alive. In many cases that is a disease of successful people. I know any number of people who have made a lot of money and who are just scared to death they are going to die before they can enjoy their wealth. They are into my office all the time worried about that. Of course, I am very understanding about it, but I also know it is my job to make the time, if they will let me, to try to teach them not to fear so much and not to fear death, early demise or leaving before they think it is time. They should, instead, try to enjoy each day and have their gain, their personal wealth, and their material wealth as fully as they can while they are living.

Moderation and regular habits are important. I think it is terribly important to take charge. I mentioned that and I want to emphasize it. We all must take charge of ourselves. We cannot always depend upon somebody else to do it. This is, of course, a part of the complexity of society.

If you have read Gibbon's *Rise and Fall of the Roman Empire*, there are many facets of his discussion describing the reasons for the rise and fall of civilization. One of them is (and he made this very clear in that enormous work) the gradual reluctance of the populace to take care of itself. Instead without realizing it, more and more people became dependent upon somebody else to look after their health, their financial security, and their lives, until finally they had given away all their rights very willingly and no longer were an independent people. Their civilization suffered and failed. Take charge of your own health and your own life and make your own decisions as well as you can, and you will be physically and mentally better off.

You see a lot written about the value, or lack of it, of physical examinations on a regular basis. I think they have a place. You know, most things are done by statistics and statistics are fine except for you or me. They are of relative value. A ridiculous example is that we should never go to bed because statistically almost 100% of people die in bed. By the same token, it is said that regular physical examinations are statistically invalid because regular examinations fail to turn up much in the way of serious physical disease. Most disease would have shown itself by itself later on, so under most National Health Plan or other plans, these examinations are exempt. They are not paid for, and perhaps, that is correct. That does not make the annual physical examination invalid for the woman who did not know she had a lump on her breast, found at the annual physical examination, or the person with rectal cancer, or the early keratosis of the skin. All three diseases can be cured by appropriate means if recognized in time. For the individual, if you or I have the cancer, or the heart murmur or a new placque in the artery in our neck, or an incipient disease; for us, it is a 100% valid concern. Statistics are sometimes misleading but are used as a weapon in argument by those who are worried about paying the bill on a mass basis. I do think there is one other element in physical examinations which, if it is paid attention to by the physician, is of paramount importance and alludes to what I started talking about in the beginning of my talk. That is, the opportunity for people who are having their annual checkup to talk to the doctor, if he is any kind of doctor at all, about things that they would never have gone to him about if the visit had not been planned as an annual physical examination. They would never have made an appointment and spent that money to go talk to him about matters they thought really were kind of minor, and yet these problems were gnawing away at them. Their worry and concern about some family matter, usually some psychological problem or some minor physical problem which is irritating, upsetting, and really interfering with their daily life are examples. The annual physical, to the good listener among physicians, is of value to people.

Avoid fear and try to find out what you are afraid of, rather than having "free-floating" fears, which cannot be identified with any event or thing. I will say one other thing at this point, and that is, it is important to know ourselves. The more that we can learn to understand ourselves as human beings, our human natures, our inner mechanics, (physically and mentally), the more successful we are going to be in being happy and productive people. Let's take a university office. How do we structure it to create an ideal situation based on what I have been talking about? Some of the ingredients, of course, will come immediately to mind.

> I just mentioned security, job security. Or, if the person cannot measure up to this requirement, proper counseling may help him find a job more appropriate for his abilities.
>
> I think good counseling in financial matters, in health matters, and in job matters can be terribly important within any organization. Yet most organizations do not have this counseling. You can go to a counselor about your marriage, about your pocketbook, about your children or whatever, but that is not what I am talking about. That kind of counseling so often is not very workable. I am talking about being able to go within your organization to somebody who knows your job, knows how your office works, understands your situation, and then helps you to get the kind of advice that you can really use to make life better. It is needed for mothers, it is needed for home, and it is needed for finances.
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> Peter Forsham is a world famous endocrinologist from Harvard. He came to the University of California about 30 years ago and made this comment when he first arrived. "You know, we got a lot more done in Boston because it is always dark and raining there and we holed up in some spot, we drank coffee—we talked constantly and we got a lot done in the way of work, but," he said, "in California you can go out on the beach any day you want and you waste a terrible amount of time. You do not talk about anything that is too important, and we do not get as much productive work done."
>
> In an inverse way, here is a situation where a good sunny environment can change or improve one's productivity. In general, however, when we are talking about environment we have to talk about environment, which is not irritating, an environment which is conducive to being relaxed. Lovely surroundings help. Also, when you are in an office little things such as a window that opens out on a tree (I always think of windows in school, for a large part of my time spent in grammar and

junior high schools was spent looking out the window) do serve a purpose other than letting in light. In our office we have achieved this in part by having a little small pathway along the building which is next to another building. We put a fence there, we planted some purple leaf plums, and my staff have a table there where they eat their lunches. If they just get tired of me than can walk out there, and I think it helps them. Avoid unexpected demands upon your people, and try to program your office that you administer in such a way so that people know what to expect. Try not to have any surprises.

A close relation to work can be important. Honeywell has done an interesting thing. Most of us try to move as far as possible away from our work, and I think it means a lot of travel time and a little bit of uprooting each day. If you can be close to your work, which is one of the advantages of living in a small community, it helps. Honeywell in Minneapolis, which is a big city, but one of many suburbs, has bought up or given low interest loans to property owners immediately around its headquarters. It has renovated those houses or sold them to its executives and to its workers at all levels, right down to the bottom, so that people live in a redeveloped community, which was previously a kind of slum. They can walk to work, or bicycle to work, or drive a very short distance to work and have each other to know and to deal with. It has been very successful in keeping top management as well as lower level employees with Honeywell in that city.

My brother-in-law, who is with the Marcor Corporation, in a somewhat similar stance was looking over companies for his company to purchase during the time of mergers, and got off the plane one sleety day in the middle of Iowa to look at a plant that Mobil was thinking about acquiring. He said to the plant manager, "How in the world do you get anybody to work here?" He said, "We have no problems; we just advertise in Southern California papers." Why? Because in Southern California the hectic life, the distances to travel, the bedroom communities, all of those things are, to some people—from management to janitors—beginning to become objectionable. I think after this last winter they are probably back in Southern California, but as he pointed out, "We are 60 miles from Des Moines. We have a town of 3,000 with practically no crime, we have a curfew, and we have two policemen who are not really earning their money." He said that they have a very secure and happy place. He said it attracts people at all levels.

I will now switch to the second portion of my discussion and talk a little bit about what I think might be a better way for the universities to train physicians and health practitioners and to disseminate information. I have been talking about how people can work better, how they can be happier, and how they can be more productive and healthier. Universities have a great role to play in creating better doctors and a better health system because they really are the fountain of the knowledge, and, to some extent, the fountain of the expertise.

There are two areas in medicine that are quite different—one is research and one is practice. I would like to see, after the first couple of years of medical school perhaps, those students interested in research sequestered off to learn to do research well, and those who want to be practitioners go on the classical way toward their training. I think as far as the teaching of facts is concerned the classic system is still an excellent system and it always will be. You can teach people, beginning with anatomy, biochemistry, and all the rest, working up through the facts of life as far as human care is concerned. You can teach that material in a didactic fashion with gradually increasing participation by the student. To some extent the way that we teach people will be directed by the systems that we provide for practitioners to live under. As health care becomes more nationalized, doctors will have to be taught to manage the way they dispense care a little differently, but no matter what kind of system is devised, unless it deals in the one-to-one relationship or very close to it, for a whole host of human misery, it will not work. It will not only not be ideal, it will not make people well.

You know the old saw about people dying with perfectly normal body chemistry. Everything had been adjusted and everything was right but out they went because either good judgment had not been used in some respect or they were going to die anyway, or the understanding of human nature had not been really a concrete thing in the mind of the practitioner. Deans of future medical schools must be people who understand the whole picture as well as the political implications, which are going to be more and more important.

Finally, I would design a super-internship system that practices as we would wish practice to be, that is, not just practice within the hospital environment which is now the classical way, with a clinic system and an extension of the teaching system, but with people. Design a system which is more the way we should be practicing with people in the whole sense, whether we are just surgeons, radiologists, general practitioners or whatever.

In listening to the talk about "The Library's Role in the Support of Academic Departments" by Sarah Michalak (I was interested in this), I thought that the agricultural community has been perhaps the foremost practitioner of good teaching in this regard. The University should reach out to the community, designate levels of care, and inform the government—our planners—as to what really is best. I think the University has its role to play in helping to mold the kind of health system that really is best for all of us, dealing with what I have been talking about. You know about the agricultural extension service in all counties, or the Citrus Experiment Station in Southern California, who go to the community in a very direct way. Any day you want to call, you can get the Farm Adviser or somebody from the University to come out and look at your property and tell you what the parasites are doing, how to fertilize that grapefruit grove, or how to irrigate it properly with the new drip system. It is free, a perfect example of how research is brought directly to the end product, which is what research is for, after all. Even Astronomy (which was an abstract science, if there ever was one, up until the time of the astronauts), now has some practical application. I am not saying everything has to be immediately practical, but I am saying that the more the University can bring the medical facts of life to bear directly on the patient through the practitioner and through an availability and responsiveness, the better I think it will be doing its job.

It should also help make the decisions as to whether the community needs an infirmary or a full hospital. For example, Sun City in Southern California cannot have an infirmary with just six or eight beds and a nurse who knows how to resuscitate the heart and perhaps save some lives through the proper use of those resuscitation techniques. No, you cannot do that because it does not fulfill the Medicare criteria for hospitals. You cannot just have an infirmary; you have to have a ten million dollar hospital or nothing. This means that there has to be an ambulance service which carries people the half hour drive to Riverside or a shorter drive to Hemet. People may die along the way; people who might have been saved if only they had that infirmary and good nurse in Sun City. I would like to see universities help us as practitioners to dispense that kind of care—by stimulating a better and more supportive governmental system.

Information sharing and tool sharing should be considered. We talked about that in the discussion of the library system. I am impressed by the fact that the library system in the University of California has book accessibility between campuses. I think that is wonderful. Too often in the medical community, it is a matter of two adjacent hospitals, each having a half million dollar scanning unit because of competition and one-upmanship. We need to share—both our tools, and our minds. That is another reason why I want to see the universities invade the communities a little bit more directly.

Still, for all that, we should always remember that people do well only when they are dealt with as human beings, by people with an appreciation of human nature.

DYNAMIC FOLLOWERSHIP IN A LEADERSHIP-ORIENTED WORLD

William J. Crockett

Most of our programs to improve the effectiveness of our organizations are devoted to making the manager (the leader) more effective. It is remarkable how much of our total effort—our internal training programs—our business school curriculum—our external seminars—is devoted to improving the manager's leadership ability. And no doubt we are largely on the right track because the boss normally is the most important figure in any work group. Traditionally we have accepted the assumption that it's the boss's role and responsibility to somehow cause the work group to function well, take care of the people needs, and produce the product within accepted standards. He/she[1] bears the chief responsibility for the vitality of boss-subordinate relationships. But subordinates can and should be more than passive robots to be manipulated and used by bosses. They also have responsibility as well as an opportunity to make the situation a good one—a win/win for himself/herself as well as for the boss.

There is another very pragmatic need for excellence in followership, and that is because we each get rewarded and/or punished mostly as a result of our followership successes. Our subordancy roles are the keys to our here and now security as well as to our future promotion and success. People get fired because they are ineffective subordinates, and get promoted because they are skillful subordinates. Therefore, from this standpoint alone, the vitality and worth of the relationship is at least as important to the subordinate as it is to the boss.

Leadership is but a facet of the web of human relationships that exist within an organization. There are far more subordinates than there are leaders. Virtually all of us are subordinates to someone. Every leader, including the presidents of most organizations, also wears a subordinate's hat. This would indicate that we should at least recognize the importance of followership as well as leadership in our attempts to make the whole work situation more effective. What are the ways that subordinates can fill the gaps of leadership in insuring that the whole does indeed succeed? What are the human skills, (not job skills) that followers need in order to provide a dynamic thrust to their jobs when that thrust is somehow, for whatever reasons, not forthcoming from their bosses?

This article sets out some ideas on how subordinates can take a more active role in creating a dynamic relationship for themselves in this leadership oriented world.

Six Sources of Potential Boss-Subordinate Conflict

There are six basic sources of potential conflict between any boss and any

[1] Note: All male forms of a pronoun also imply the female!

subordinate. These are—**the job, the boss's behavior, the boss's need to know, the boss's need for access to the subordinates territory, the subordinate's behavior, and the subordinate's needs.**

The Job — The job itself is the central reason for the boss-subordinate relationship existing in the first place. The subordinate is on board because the boss has a need that the subordinate can fulfill for him. There is a product, a service or a something that must be delivered within limits of cost, time and quality. The boss hires a person to do this for him. It's really that simple, *if* the subordinate produces what the boss wants. It starts getting more complicated when the subordinate starts producing what *he* wants, the way he wants it, etc., and not what the boss wants! Therefore, the boss-subordinate relationship around the job itself doesn't stay simple for long because things and people change and the job itself changes.

The wise subordinate will keep his eye upon what it is that the boss wants out of his activities and efforts, and will deliver exactly that until there has been an overt agreement to change it. Only when this is achieved can the subordinate embark with impunity upon his other activities and interests!

The overt initiation of discussions with the boss about restructuring the tasks and responsibilities of the job is one of the first and most critical dynamic opportunities of a subordinate. Not only may the job not be fulfilling to the subordinate, but the critical success factors of the task may be lacking. They may have been overlooked in the first place, or pushed out due to the multiplicity of non-essential tasks and loadings that the job has subsequently acquired. It is the subordinate who has the best opportunity to know this, because he has the first-hand data. Therefore, it is the subordinate's responsibility to initiate discussions with his boss that can lead to changes in the job—its content, its priorities, its methodology, its standards, etc.

Another area of potential misunderstanding around the job comes from ambiguity about the job itself. The more ambiguity there is in a job the greater the danger in terms of the subordinate's not delivering what the boss really expects. If the subordinate will take the pains to be objective in documenting his case and present it in a genuine concern for the boss, then the subsequent discussion can be free from emotion, tension and acrimony.

This discussion of job content and meaning coming from the subordinate's genuine concern for the boss's best interest (as well as from the subordinate's dissatisfactions) can be a dynamic and exhilarating experience for a subordinate—and a rewarding experience to a boss.

The challenge to the subordinate is in fulfilling his stewardship responsibilities to his boss without falling into the trap of claiming ownership of the territory that he has so skillfully created and built.

The Behavior of the Boss — The job that a person does is always emotionally loaded by the subordinate's perceived behavior of his boss—and most importantly, the subordinate's interpretation of the meaning of that behavior to him. Whatever the boss does or does not do in the course of the relationship, day after day, has an implied (and sometimes overt) meaning for the subordinate about his boss's intentions and attitude toward him.

For example, if the boss may seem to withhold important data that the subordinate believes he needs in order to do his job properly; if the boss doesn't invite him to the meetings that he thinks he should attend; if the boss looks at him in certain ways; if the boss appears at unusual times; and on and on, the subordinate may wonder *why*. In such cases the subordinate supplies the reasons and motives for the boss's behavior—and in many cases those reasons and motives, in the mind of the subordinate, may portray the boss's dissatisfactions with him.

This is the start of distrust, suspicion, ill will, disloyalty and outright animosity on the part of the subordinate. Over time, these emotions can build to the point of causing the relationship to end.

The sad thing about our human relationship is that very often the subordinate's *perception* of the boss and the situation is entirely incorrect.

In such instances the subordinate again has the responsibility to act because it is he that has the data; i.e., his perception of the boss's behavior and his inferences of the meanings of that behavior to him. So, it is the subordinate who has the burden of taking the matter up with his boss.

In such cases the wise subordinate will choose the time and place carefully. He will also take the responsibility for the feelings that he has and the way he will express them to the boss. For example, he won't start out by saying "You—do so and so!" He will say "I feel so and so." Usually the boss will ask him "why" and then the subordinate can describe his perceptions of the behavior and his inferences of the meaning/impact of that behavior upon him. This can be the beginning of a very fruitful building process that may become ongoing.

This kind of dynamic behavior on the part of a subordinate will do much to keep the boss-subordinate relationship vital and unspoiled by the pollution of unfounded suspicions.

The Boss's Need to Know — There is one hard fact of organizational life that all subordinates have to learn, and that is their accountability to their bosses for the way they administer their jobs.

The reason for accountability is that no subordinate, no matter if his title is dishwasher or president, has final accountability for his job. He is not the full owner of the territory that he occupies. He may feel like an entrepreneur, act like a king and be a saint, but still he is but a steward in his "master's" vineyard. Through the process of delegation each subordinate is given a job to do by his boss. Some bosses tell their subordinates little and others tell them much—how, when, who, where, why, how much, how often, how deep, how wide, etc. In the end every subordinate must account to his superior for how he has done the thing that the boss has given him to do. It is the subordinate's duty to give, and the boss's right to request this accounting. Actions on the part of the subordinate such as withholding information, diverting data, giving half-truths, forgetting, falsely telling, etc., whatever the excuse or rationale, are examples of no win, non-professional subordinancy. It is the boss's territory. It is the boss's right to know. The boss must be told because he is also a subordinate to another boss who is also looking to him for that same accountability. And so it works, forever upward! The dynamic subordinate will not only fully and cheerfully perform this function of accountability, but he will himself initiate it! This in reality gives the subordinate a chance to put his boss at ease and create the first stirrings of trust. The subordinate's challenge is to be able to account to the boss about his job honestly and factually and still retain his feeling of personal freedom and dignity.

The Boss's Need for Access — All of us have a feeling of personal territory. My desk, my car, my coat, my home, my job, etc., are mine and are important to me. They are my territory and no one had better encroach uninvited into my domain! All of us seem to possess and exercise the Territorial Imperative.

There is one area, however, where a person cannot exercise such dominion with impunity. That's the job that his boss has delegated to him. It is still the boss's territory because the boss still has accountability upward for the success of the job. The subordinate has been given only a temporary lease. The subordinate is the steward for the boss and is working to fulfill the job in the best way that he can on behalf of his boss. Some bosses, of course, for whatever reasons, will sometimes elect to respect the subordinate's area and not intrude unasked into the domain that the subordinate calls "his." Other bosses make no bones about their right to tell the subordinate exactly how he, the boss, wants the job to be done. Leaving out the psychological, motivational and productive consequences of such dominant boss behavior, there seems to be little question of the boss's *right* to do just that. The reason for this rests upon the rule of accountability—the person who is accountable has the right! And since the subordinate's boss is accountable upward, it is his right to have full access to the subordinate's area of responsibility.

So the dynamic subordinate will open wide the gates of his job to his boss. He will invite him in to visit frequently. He will proudly show him the situation, explain the improvements, ask for his help on problems and seek his ideas for change.

The subordinate who can display his area of responsibility with such unlimited and uninhibited trust, in turn, makes his boss his advocate—his partner—and gains additional trust and freedom as a result. It's the win/win way to go!

The Subordinate's Behavior — The boss, also being human, will play the same game of perceptions and implied meaning that the subordinate plays (described above) with him.

The wise subordinate will be aware of two important facts:

- That the boss does indeed look at the subordinate's behavior and wonder at the implied meanings it may hold for him;
- That the boss may not have the guts to openly and directly confront him about the things that he (the subordinate) does that the boss doesn't like. It may be the boss's tendency to "store up" resentments and irritations over little things without telling his subordinate. And if so, this holds grave danger for the subordinate. The subordinate may be blissfully unaware of the deep resentment and irritation that some part of his behavior is stirring in his boss. The danger is that one little thing the subordinate may inadvertantly do could wipe out the boss's perception of all of the good things the subordinate has been doing. And in fact, these irritations may (can) result in the subordinate's dismissal. The explosion of a boss's pent-up emotions can be dangerous to all subordinates.

The dynamic subordinate will take the initiative to probe with his boss for these hidden reservoirs of resentment. One of the best ways of doing this is for the subordinate to take his boss into his confidence; i.e., tell the boss of his hopes for success and to ask his boss for help—for coaching—for ideas—and for advice.

This may ease the situation so that the boss can feel free to express himself. And once this general base of expectations has been laid, then the subordinate should take the initiative to discuss with his boss the results of any major activity that he has fulfilled as to what went right, what went wrong, how the boss felt, etc., etc. The process becomes *critique, not criticism.*

Only the most constricted boss could fail to respond to the sincere searching of a subordinate for a positive and helpful critique.

The Subordinate's Needs — Subordinates also have needs, and wise bosses, realizing this, will attempt to understand and fulfill those needs. But—for whatever reasons—some bosses won't do this or are unable to start the process.

The dynamic subordinate will not elect to feel hurt when he finds that his boss is not very aware of his needs. He won't sulk in his corner. He won't, first off, try to find another job. Instead, he will stop waiting to be chosen and will start letting his boss know what it is that he wants. In reality there is no way for another human being to actually know our needs unless and until we ourselves make them known. Oftentimes our needs do make sense to others, do fit in with higher goals and objectives, and can indeed be met. But it's the subordinate's responsibility to take the risk of making them known. That's part of being dynamic.

Four Additional Pro-Active Prescriptions

There are four additional positive things that the subordinate will do if he wants to build a dynamic relationship with his boss. These are: 1) challenge him; 2) build trust; 3) become professional; and 4) be prepared to leave.

1. **Challenge Him**

   Most bosses don't like subservience and don't trust "yes" men. Most bosses want subordinates who will challenge their ideas, differ with their decisions, and who will dare to be uniquely themselves. But to get away with this kind of behavior requires that the subordinate come from a basis of absolute trust and not from competitive counter-dependency. To gain this preferred role, a subordinate must have:

   - Demonstrated his absolute personal respect and loyalty to the boss in other situations.
   - Gained his boss's admiration and respect for his professionalism, for the accuracy of his data, for the timeliness of his reports, and for his emotional maturity.
   - Never publicly played win/lose games at the boss's expense.
   - Gotten the boss's job done to the boss's expectations when the decision was finally made.

   The role of loyal opposition or devil's advocate is an important one for all subordinates to learn—if they can also learn to use it from a solid base of trust. They must learn, when practicing it, to come across as caring rather than punishing, collaborative rather than competitive, probing rather than judging.

2. **Build Trust**

The only relationship that is tenable for a subordinate to have with his boss is a constant, surging flow of two-way trust. Without trust nothing works well and the relationship is flat, unexciting and suspicious. There can be no synergy without trust. There can be no freedom without trust. There can be no real professionalism without trust.

Building trust is a mutual activity and is the responsibility of both the boss and the subordinate. But the subordinate must work at it harder, taking the first initiative and avoiding the depletion of trust caused by his ineffective behavior because he (the subordinate) has so much to lose if the boss's trust is lost. When trust is lost, the subordinate is in danger of losing his all!

Trust is built in tiny increments of positive behavior around the things that have already been mentioned—obedience with grace, accounting with absolute honesty, exercising unselfish stewardship, initiating access, and challenging and confronting. It is built by day-by-day evidence that the subordinate puts the boss's interest first; does not upstage him; does not let him look bad; saves him from mistakes; rescues him from his errors; and makes the boss believe that he is happy in second place.

If a subordinate can do these things, one day his bank of trust will overflow! On the other hand, trust is lost in massive globs when we, as subordinates, fail in any of these areas.

Perhaps it's best said—if a subordinate can retain his personal self-esteem and humility of demeanor despite the seductive temptations of power and ambition, he will build trust.

3. **Become Professional**

The value that the boss places upon a subordinate is in relationship to how well the subordinate enhances the effectiveness of the boss's domain. The short-sighted subordinate will conceive it to be the boss's responsibility to train him, to promote him, to look after his career and to help him succeed. And of course bosses do have some of these responsibilities.

But the dynamic subordinate won't wait. He himself will soon take on the responsibility for his own professional development. He doesn't own his territory—his boss can fire him at will. But the one thing that every subordinate does own, that no one can repossess, is his own expertise—his own professionalism. This is the most personal, most valuable, and most absolute territory a person can possess. No one can hold a capable person back. His professionalism and his talents will become known, will be needed, and will be requested—if not by his own boss, then by others.

The wise subordinate is the learning, developing, experience-seeking person who becomes independent because he is a professional! From this personal professionalism flows an ability to do, to challenge, to excel, and to be free. The inevitable result of such professionalism is not only success, but also a feeling of confidence, courage, and high self-esteem!

4. **Be Prepared to Leave**

One of the keys to dynamic subordinancy is the psychological willingness and the professional capability to be independent of your boss and his job whenever you, the subordinate, want the end to come.

When it becomes apparent to you that you can't respect your boss, don't approve of your boss, can't trust your boss, find yourself wanting to punish your boss, feel that you must compete with your boss, and are moved to bad mouth and belittle your boss, then it's high time for you to move.

To stay under such conditions is to prostitute yourself for money with no sense of commitment and loyalty. To stay is to lose your self-respect as a human being.

Perhaps our willingness to leave a situation whenever it no longer meets our needs, fulfills our values, or challenges our expertise is the most important single measure for insuring that we retain our dynamic synergism as a subordinate. This is the key to our own freedom and to our self-esteem.

CONCLUSION

We subordinates are enmeshed in a web of intricate and conflicting human relationships. We often feel that we are the pawns of powerful forces that use us, direct us, and sometimes discard us, at will. Perhaps the thing that is the most important for us to learn, to accept, and to practice is to assume full responsibility for ourselves, for our professional growth, and for our behavior. This means that we must learn to attain a high degree of self-management. This means that we do not delude ourselves as to what we wish for any situation, and that we know what we want to have happen for ourselves as well as for our bosses. Finally, this means that we have the internal personal security to take whatever risks there may be for insuring that all facets of our jobs and relationships are indeed dynamic. Perhaps the greater risk is in not risking. The status quo may be the ultimate indignity.

Thus, our own self-discipline, self-management, and professionalism become the underlying forces that fuel our dynamic subordinancy. We are indeed responsible for ourselves and for our own behavior.

LONG-RANGE PERSONNEL PLANNING

Archie Kleingartner

If we truly want to equip ourselves to manage tomorrow's university, then it seems to me that we must begin now by defining and preparing for the human resource conditions that will prevail over the final quarter of this century. That is what I want to talk to you about today—*long-range personnel planning.*

But first, let's consider today's personnel environment . . . an environment characterized by *change*. To quote Alfred Lord Tennyson: "The old order changeth, yielding place to new." Yes, the old order surely changeth! *The composition of the workforce is changing!* And quite dramatically. *The role of the supervisor is changing!* He's losing his ability to act unilaterally.

Do you sometimes wonder if employees nowadays are less interested in hard work and earned rewards than you were at their career stage? *Employees values are changing!* Powerlessness, frustration, and dissatisfaction are growing.

Perhaps the most significant change taking place around us today is in *relationships* and *expectations* of people. Employees no longer feel that a fair day's pay for a fair day's work is enough or that this is all they should expect from their jobs. They are not so sure anymore about the ethic that hard work "pays off." Perhaps too many expect to "do their own thing," and to enjoy the rewards of the "good life" . . . *instantly.*

Now, what does all of this mean in terms of managing tomorrow's university? And what are the implications for long-range personnel planning?

I think it means in part that *morality* and *participation,* not *productivity*, will dominate personnel considerations in the future. Look what's happening already with respect to affirmative action, women's rights and equal employment opportunity. I think it also means in part that "management rights" will no longer be considered "inalienable rights."

Lastly, I think it means most assuredly what many persons have noted: that *"the greatest need is going to be for people who can manage change."*

Now let's turn to *personnel planning.* Labor leader Phillip Murray said: "Employers generally get the kind of labor relations they ask for."

I would say they get the kind they *plan* for, or, to quote poet Phoebe Cary:

> "Sometimes I think the things we see
> Are shadows of the things to be:
> That what we plan—we build."

What we plan . . . we build . . . reason enough to start planning. But just what do we mean by personnel planning, and where do we start?

Personnel planning involves *identifying* current and future needs, *inventorying* present and potential resources, and integrating the various functions of personnel to close the gaps between needs and resources. We start personnel planning by defining—that is predicting or forecasting—the future. A

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complex and hazardous undertaking at best.

My purpose today is not to try to examine in detail the personnel planning process—that would be impossible in the time allotted. It is, rather, to share with you one or two of my predictions about the future, to mention some of the issues that face us in personnel planning, and to suggest several approaches to useful personnel planning. Predicting future conditions should be a result of study and analysis of pertinent data. What will be the labor relations climate in which you will be managing tomorrow's university?

In the decade from 1964 to 1974, the number of all state and local workers grew from 7.2 million to 11.5 million. At the same time, union membership rose from 20% of all state and local workers to 34% and is headed higher. At present, 30 states have collective bargaining laws. A majority of teachers are covered by contracts reached through collective bargaining. On the basis of my study and analysis of these and other pertinent data, I can only conclude—and therefore predict—that in managing tomorrow's university you will be dealing with employees who will have collective bargaining rights as a matter of law and as a matter of social policy.

This is different from predicting that university employees will unionize. In fact, *I predict they won't*—if we do our jobs right. Let me restate this point lest you get the impression that Archie Kleingartner is yielding to labor outsiders your authority to manage tomorrow's university!

I believe that in the best of all possible worlds, *all* public employees would have legally guaranteed collective bargaining rights. And in the case of the University of California, there would be such enlightened management that no need would arise to trigger the exercise of those rights!

Today's manager is inclined to devote his energies, time and attention to the "more practical" problems of computers, not co-workers; of facilities, not people. What will tomorrow's manager be like? He will be dealing with a fast-changing worker who will insist on meaningful participation in decisions and changes that might influence his job and his life. What will he substitute for his loss of command and control?

My answer is that tomorrow's manager will obtain his job satisfaction—self-actualization if you wish—not from exercising command, but from *producing results!* Past approaches will not work. Research and theory will be tempting crutches and reasons for delay: but in the real world, *results count!*

What kind of manager can manage change? I believe that tomorrow's manager will learn to live with uncertainties of changing duties and responsibilities. He will guard against *underreacting* or overreacting. He will create a favorable human climate. He will communicate on a one-to-one basis with employees rather than having meetings, sending memos, or issuing newsletters. In short, he will truly exercise *leadership*—but through influence rather than command. And both his success as a leader and the success of the institution will depend principally on the management of human resources.

If tomorrow's workers will have more rights and tomorrow's managers more leadership responsibilities, what will be some of the important issues or pressures confronting them? These are issues or pressures that perhaps you need to take into account in your personnel planning.

In terms of pressures, it is not too difficult to recognize even now those pressures that will assume critical importance in the future. *Government regulation* comes to mind immediately. Increasingly, I believe, Federal, State, and local government agencies will be asserting regulatory control over the university as well as other institutions. We need only observe the rising tide of legislation and litigation dealing with affirmative action, collective bargaining, conflict of interest, and the like to understand the implications for the future.

Pressures will arise, too, from developing social problems. Unemployment, for example, has remained a nagging problem for too long and unchecked could easily become critical. And not to be ignored are the pressures generated by the rising expectations of employees together with growing citizen involvement in institutional affairs.

Motivation has been a rather overused catchword, but I think we have to recognize it as a major challenge and issue for personnel planning purposes. How can employees be stimulated—as surely they must be in order to avoid squandering human resources—to put forth their best effort? Why isn't performance all out?

I think the challenge for the future lies in dispelling the credibility gap that exists between management and individual employees. Individuals are skeptical of managements' willingness to fulfill *claims!*

Teamwork will also be a major challenge and issue in managing tomorrow's university. I'm not referring just to the need for integrating the effort of academic and staff personnel. I'm suggesting that too many individuals now assume they can isolate themselves from others, work hard in their own areas of responsibility, and produce successful results.

It will never happen in tomorrow's environment! Call it what you will—participatory management, age of employeeism, collective bargaining, whatever. The name of the game will be *teamwork*. Teamwork toward the end that goals are defined by managers with *participation* by employees. And teamwork toward the end that goals are worked toward and *achieved jointly* by managers and employees, as *partners*. Or, in another sense, as *equal parties to an unwritten but understood contract* setting forth the *different* but *interdependent* duties, responsibilities, and rewards of each of the parties.

Let's look now at some approaches to long-range personnel planning. What should we focus on? How should we orient our planning? It is not redundant to say that our long-range personnel planning has to focus *on people!* Not just because that's what personnel is all about or because people are decisive in the future status of this university and institutions in general, but because *any resource not fully utilized will constitute waste and mismanagement* in the future!

Not only must our long-range personnel planning focus on people, but it must also be oriented around university goals and objectives! No personnel goal is valid unless it relates directly to and supports an established university goal, objective, or mission. It is not enough to plan in terms of hiring so many replacements and developing so many managers! The university is not in the business of employment or development. The university is in the business of teaching and research!

Let me sum up briefly. Today's environment is characterized by change. We will need to prepare ourselves to manage change if we want to be ready to manage tomorrow's university. Participation will rival productivity in personnel considerations in the future. Personnel planning is identifying needs, inventorying resources, and *integrating* personnel functions to close gaps between needs and resources.

In managing tomorrow's university we will be dealing with employees who will have collective bargaining rights as a matter of law and social policy. It does not necessarily follow that the exercise of these rights is inevitable or desirable from the university's standpoint. On the contrary, in the best of worlds, enlightened university management would obviate the need for employees to exercise formal collective bargaining rights. As managers of tomorrow's university, we will have to learn to live with uncertainties of changing duties and responsibilities and guard against underreacting or overreacting. We will have to be true leaders to cope with the pressures of government regulations, unionization, rising expectations, and social problems, as well as to meet the future challenges of motivating the workforce and building teamwork.

Managing tomorrow's university will be demanding but rewarding—if we carry out our long-range personnel planning with care and attention.

The Office of The General Counsel

Joseph L. Cowan, Jr.

I was asked to present some information about the Office of The General Counsel of the Regents. I know from looking at the many familiar faces here that some of you have had all too many dealings with my Office and probably would rather I not go into it all, but I think it would be helpful to the group as a whole.

I think the Office of The General Counsel has really changed dramatically. I have been with the Office approximately four years, and in that time we have added five new attorneys, in addition to replacing individuals who have left the Office. The field of higher education law is a rapidly growing one, and the National Association of College and University Attorneys is the fastest growing association of attorneys in the nation. It has taken the lead in Washington in making known the legal position of the association and its members on wide ranging legislative enactments and regulations in the field of higher education law

Our office is headed by Donald Reidhaar, who is The General Counsel to the Regents. I am an Assistant Counsel. There are Assistant Counsels and Associate Counsels, and we have one Chief Associate Counsel, Jim Holst. Jim is Don's alter ego in matters of administration within the Office. We are organized along the lines of campus and laboratory assignments. For example, I am the San Francisco campus attorney. Each campus has a designated representative in our office to work with you on a day-to-day basis on just about any type of problem that could come up.

Each individual responsible for a campus also has a legal specialty. My specialty happens to be in the area of health law and my involvement in health law includes everything from the preventative aspects of malpractice insurance to provider reimbursement with the State and Federal agencies. It is an enormous field of practice, but a very satisfying one because of its diversity.

I also have been asked to become involved in personnel grievances and personnel litigations. I am a Counsel for all the legislative regulations and policies having to do with University records and related matters. This includes fields like affirmative action, human subject research, labor law, seismic safety, the natural gas safety act, retirements, taxation, real estate, and all the matters dealing with the acquisition of property, licenses, and mortgages.

The Office also has specialists in student admissions, both because of the amount of litigation that we have had and also the need to guide the development of policy within the University. All of these special legal subjects are all handled by specific individuals in the Office.

Most of the work in the Office is ultimately related to one of two functions: litigation and policy development. Litigation includes administrative

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hearings, where the University has been formally contested or wishes itself to formally contest an action. Just about everyone in the Office becomes involved in litigation at one time or another, and, with the exception of the matters which are handled under our insurance policies such as our medical malpractice insurance, the Office handles the entire range of lawsuits that become necessary. The other side of the house has to do with all the policies that are developed, for example personnel policies. Every policy that is developed within Systemwide Administration at one time or another is passed through our office, either in its review stage or in its final form, when we help with the interpretation of Federal and State statutes.

General Counsel has also undertaken to work with Systemwide Administration in dealing with outside agencies, both Federal and State. Lately we have spent a significant amount of time dealing with those kinds of matters. Campus attorneys have a role in consulting on a day-by-day basis with campus management on all levels, depending on the campus. Some campuses are very free in letting the individuals contact the Office of the General Counsel. Others have chosen, for reasons of coordination, to centralize that responsibility. These campuses have legal liaison positions. We provide legal opinions on policies, and on any and all subjects that might come up. The people on the campuses seem to be geniuses at coming up with novel questions to pose to the Office of The General Counsel, and we get dozens of requests every day for opinions. It is impossible to describe the scope of these questions.

Normally we don't become involved in criminal law, but very often the campuses, most particular the campus police departments, have a need for interpretation of penal code statutes.

That basically is the structure of the Office. As I have said, I am sure many of you have had to deal with General Counsel and are well aware of our capabilities and the time delays it takes to get an opinion from us, which is the chief complaint that we hear. This problem is due really to the enormous amount of work that comes into the office and enormous amount of time taken up with activities such as litigation.

We now have a case before the United States Supreme Court, the Bakke case, with which I am sure you are all familiar. It is a student admissions case, but it has some broad implications for personnel matters and affirmative action that are very great depending upon which way the United States Supreme Court decides.

I suppose one of the biggest areas of growth has been in the area of employee grievances. As few as five years ago, 90% of the cases in the Office, I would say, were handled by one attorney. For years he would have maybe one case every other month or so. The personnel policies provide that when an individual is represented by legal counsel, the Office of The General Counsel will represent that department. Now, at least five attorneys in the office spend a good deal of time dealing with employee grievances. On the average, we probably hold three grievance hearings a week on the campuses and in the laboratories. You can multiply that and see how many we handle in a year, and there are no signs of this trend leveling off.

In tomorrow's university we are going to see some changes in the way in which grievances are heard. In the past, we have also represented departments when individuals are represented by employee organizations. Because of the workload and also because of the feeling that campus management should become more involved in interfacing with employee organizations, there is a lot of interest in developing management people on the campuses who will be representing individuals, department heads, and supervisors in grievances brought about by employees represented by the organization, as opposed to legal counsel. There will be exceptions to that in cases which involve legal issues or where there is some other special need, but the emphasis now is to have campuses handle employee grievances to a much greater degree than they have in the past. It is an enormous workload for us at the present time. I think the campuses are going to find there will be a greater workload for them as well. Grievances are not easy. They are not something you can just assimilate into your workload. There are going to have to be positions specifically designated on the campuses for people to work closely with the personnel people and labor relations people, making sure that the University's personnel policies are implemented in a manner in which they were intended to be.

The grievance process, I think you all should be aware, is really a kind of substitute for collective bargaining. Employee organizations have the right to meet and confer, but they view the grievance procedure as a way of: (a) getting publicity, and (b) effecting the way in which personnel policies are interpreted. At some campuses virtually every dismissal results in a grievance. UCLA has a very high grievance rate because of very active organizations. AFSCME is a particularly active group and one which is, in my opinion, using the grievance machinery as a substitute for collective bargaining.

I think the campuses are going to have to recognize this, too. A grievance is not just an individual case. These cases have precedential value on a particular campus and also across the University. They also have legal implications. As you are all aware of, many of our cases do not stop at the University level. They go on to court. CSEA has a team of attorneys that regularly take us to court, particularly on dismissals of staff employees, and they will continue to do so even though their manpower is being taxed with the load placed upon them in dealing with the University.

The court's review of the administrative decisions of University grievances is a rather limited one. There has been a fairly recent affirmation of the rule that the court will not independently weigh the decisions of the University. They will not consider the facts like a trial court will, but rather look to each case to see whether it is supported by substantial evidence. If it is, they defer to the judgment of the hearing agency within the University. This is a very favorable position for the University to be in.

We are the General Counsel to the Regents. The Regents is a corporation which operates the University, and we report to them. As Officers of the Regents, we do not report to President Saxon. This is typical of what you would find in a corporate structure where the corporate board would have an independent counsel reporting to it. As a practical matter, I think we are well integrated with the rest of the University, and, of course, with the Office of the President and the Chancellors. We do not try to maintain a separateness in working relationships. Of course, The General Counsel does have a special relationship to the Board of Regents. He attends all of their meetings (a number of us do). He advises them on positions they take and is their Counsel. As a practical matter, we work very closely with the administration of the University because I think we consider ourselves to be part of the University.

As I mentioned previously, because of the need to have individuals present on a day-to-day basis, a number of campuses, Los Angeles and Berkeley particularly, have employed legal coordinators. They do not go to court, but serve as a conduit. They generally sit with their campus officers and provide on-going legal advice. They are also there to detect when legal problems come up. It has worked rather nicely. Everyone in our office really finds it to be of value because of the fact that they have that "local feeling" for issues and can sense matters that have the highest priority. As I said, they do not actually represent the University in any litigation.

The majority of grievances are related to terminations, which includes lay-offs as well. Affirmative action grievance cases are increasing. Other grievances are sometimes incorporated with discrimination charges, failure to promote, and charges of violation of personnel policies of all kinds including denial of vacation, sick leave, etc. Termination for medical reasons has a very high incidence, which really surprised me. For a while we were having many layoff grievances. As to the validity of them, of course, it is the right of any individual to bring forth a grievance. Still, the rate of University success is rather high. I do not think that this means the other cases are unmerited. It certainly is merited in the opinion of the individual and particularly the organizations which are challenging the application, for example, of lay-off policies. They wish to bring attention to these policies as they see them.

Behind a grievance there is generally some kind of inability to communicate. I suppose it works both ways, and I am not saying it is totally an employee problem. Sometimes you will find a layoff where it is clearly a correct application of policy, such as when the department has practically been closed down and someone without much seniority is grieving for retainment. There is the sense that the University has let them down; and, of course, at that point it is a matter of demonstrating financial problems and compliance with the rest of the policies. The individuals involved want to hear it from the Hearing Officer Committee and feel they really have a chance of this kind of event being overturned.

Also, there is one thing I think has to be said about the grievance issue. In my own personal observation it sometimes has been a "dumping ground" for people with personal problems.

I would say that approximately half the grievances that I had in the last couple of years have involved what I call problem employees.

Alcoholism is a fairly important feature in this sense. I was recently at Los Alamos, where I had a case concerning an employee with history of alcoholism. I was pleased to learn that the Laboratory had a very extensive problem employee clinic and they make no bones about recognizing the responsibility of the Laboratory in this area. Frankly, I was impressed with it. Of course, when I am involved in the cases, it is usually too late, and it demonstrates that there is a failure at some point. Indeed, this was the case at

Los Alamos. This individual, even though he had gone through the problem employee program, failed it and was terminated. He was grieving his dismissal, but I cannot help but feel that this kind of a program is something the University should consider for the future. With the amount of cases involving problems like this, it seems to me that both from an individual standpoint and the University standpoint there is a higher chance of success treating the employee for the problem that he or she does have, rather than treating it as an employee-employer relationship or a misconduct kind of thing, because often the real cause is an internal problem the individual has. That is my own personal impression and I do not know whether other attorneys would feel the same. I think at a certain point you notice that, "Hey, I have been there before; this is the same type of problem employee."

I have also noticed that we have had a relatively high incidence of affirmative action dropouts, people who were employed during a high-activity period towards affirmative action. A lot of them have not made it. I think again it points up a need of the University to recognize that when you hire employees who have not had the training, the University has an obligation to support that individual, and to deal with any problems that come up. Absenteeism, sickness, child care problems, and difficulty coping with institutional processes leading to a dismissal action are all too prominent. I think we need to consider these things to be work-related problems and to deal with them through institutional services and counseling rather than having them end up on the grievance table.

There is also a high incidence of academic personnel problems. They do not all end up in grievances but I have certainly noted a need to improve the administration of personnel policies, that is, to make (and particularly at your levels) the people who are in the departments who see these things being administered (or not administered) aware of University policy in this area. Particularly with the employer organizations who are looking for such violations, you are facing a constant high risk of ending up in a grievance with a Hearing Officer, leaving no alternative for that Hearing Officer but to rule against the University, and against management for failure to abide by its policies. You have got to follow the rules. Policies and rules are, in essence, the employee's contract. I think for the future there will be more attorney-employer organization representatives who are trained to look for these things, and who will know how to advocate on behalf of the individual when there is a violation. We face a major exposure. If you think it is time-consuming to administer these things now, sometime sit through grievances that go on for days and days and days over a relatively minor point. Again, the employer organizations are using these acts as a means of publicizing their organization, as a vehicle for employees to join together and to deal with management collectively.

General Counsel tries to counsel and inform managers and supervisors in personnel actions because we have to live by what we print in personnel policies. I certainly have taken the position that the University cannot gain by losing a grievance where the black letter of the rules is in conflict with the action that is taken. We try not to. Sometimes you just end up that way and you basically have a case that has merit; it has just been so mishandled procedurally that there are real liabilities to the case. We need to clean up our act there. Employees, of course, have to rely on their own counsel for their best interests. The Personnel Offices have historically tried to play a role in advising the employee. Maybe many of you think the Personnel Office is on the side of the employee, but they sometimes do so because of what they sense their mission to be; that is, to try to have a system that lives by the personnel rules the University establishes.

Part of this comes down to the fact that we require our Personnel Offices to be all things to all people. On some campuses, there has been a division of labor set up recognizing management considerations. There is a need for management advocacy on the campus and certain individuals have been designated to serve in that area. Other individuals are more service-oriented to employees and as an employee service are trying to assist them by representing them to some degree. I think in the long run you are going to see more of a clear division of labor. I think there will be people whose responsibility will typically include employee relations, who will be there advocating on the side of management. They are going to have to be, particularly as they get into more and more grievance activity. Management has a need to advocate its own position with trained people to help them. Right now they use the Office of The General Counsel, but there are many cases where they should have people on the campuses to handle this kind of thing.

I did have some time to put together some general thoughts on higher education and the law, and I think it will have some relevance to other things we will be talking about in the Conference. Now I would really like to get into that. It really relates to the question of institutional autonomy in relation to what is happening on the outside. I think that we all know, within most of your memories, institutions of higher education being considered autonomous as a sacred concept. There was a wall between the "city" and the University. By some processes, autonomy has been ebbing the past ten years, in large part through the activities of the Federal courts, and the Federal and the State governments.

We are all familiar with the breadth and depth of Federal laws and regulations touching virtually all of your administrative responsibilities and most of you are aware of the impact of major court decisions. It is a rare issue of *The Chronicle of Higher Education* or other trade paper that does not contain at least several major stories on what the courts, particularly the Federal courts, have said is the law for colleges and universities.

The changes that have been brought about by the courts and administrative agencies of the Federal and State governments have been cumulative. Each individual change has been relatively small, acceptable by and large, and almost always for an important purpose. Today, all of the laws on the books are sufficient, in my opinion, if fully enforced (which is another matter) to constitute the largest single control on the University, far beyond that of what the Regents, President Saxon and the Chancellors can do towards setting policies for the University. Each new law is construed by an enforcing agency, particularly at the Federal level, none of which has shown any special concern for the uniqueness and special structure of higher education.

Needless to say, every college and university finds it difficult to deal with these new laws and regulations, especially in times of fiscal retrenchment or leveling-off of resources. All new laws and regulations and court interpretations have profound effects on budgets, organizational structures, and operational policies in ways that never would have been considered just a few years ago. Federal regulations are perhaps the most significant. Dealing with regulations, which are drafted and administered by Federal agencies, has become a major activity in the Office of the General Counsel, and as I have indicated before, a major activity for nearly every campus administrator, and, I am sure, for most of you.

A great deal of energy is directed to being "in compliance,"which is the Federal bureaucrat's term for obeying the law. Yet, it can be argued that the range and complexity of Federal laws, particularly in the area of affirmative action and non-discrimination, is now such that infractions are not easy to avoid. This is compounded by the fact that many of the Federal laws and regulations are new and still somewhat vague, which places a heavy burden both on the regulator and the regulated. The concept of compliance or non-compliance becomes very subjective as we have seen in the absence of very clear rules. This result seems reminiscent of "Catch 22." At the time when one of our campus's affirmative action program was under investigation, a Departmental Labor official was quoted as saying that the programs were "to be deemed not out of compliance" with Federal affirmative action requirements. However, the next day a different labor department official noted that the statement that the campus is not out of compliance "does not mean that the University is in fact in compliance." This is the kind of thing we are faced with almost on a daily basis.

In general, there are a number of facts that produced the current state of affairs in dealing with these Federal regulations. One is that most of the laws and regulations are new. Thus, interpretation is still unclear. This is like the situation which existed in private industry after the National Labor Relations Act in 1935. It took literally dozens of years of decisions by the National Labor Relations Board to clarify the Act and indeed clarification is still going on. We are really at a middle-stage in the process of compliance and interpretation.

Secondly, there is a considerable amount of agency overlap, particularly in the field of nondiscrimination. We may be in compliance with the Department of Labor (if you can ever get them to agree) but then we are out of compliance with D H E W. Also, the enforcement procedures, the forms, and everything else that goes along with this are all quite different for each agency. In the field of affirmative action-nondiscrimination for the handicapped, they are so intent upon doing their all for their program that they will not agree to use the same type of measurement devices and procedures that have already been worked out for other forms of nondiscrimination and affirmative action. These agencies are something to deal with. I am sure you all have had the experience of dealing with a Federal agency, particularly with granting agencies. Federal agency employees are not elected officials. These are the people who make the important rules yet there is relatively little pressure on them, and they don't seem to sense what the political importance of their rules are.

Through the regulation writing and enforcement process the enabling Statute may bear little relationship to the final regulation. A case in point is Title IX, which deals with sex discrimination. I think most of you have had some contact with it. Physically, Title IX is about 40 words in length. The regulations are now published and are approximately 12,000 words in length. This is what is necessary to interpret and to set forth the basis of Title IX. Also, in these regulations the Federal agencies have a habit of referencing what goes on in private industry and in Federal government. Regulations tend to be written with reference to highly centralized organizations such as the Federal government. They look around themselves and say "How would we handle this?" They come up with schemes which place responsibility in a central officer with a central reporting relationship and feel confident from that that colleges and universities can and should do the same.

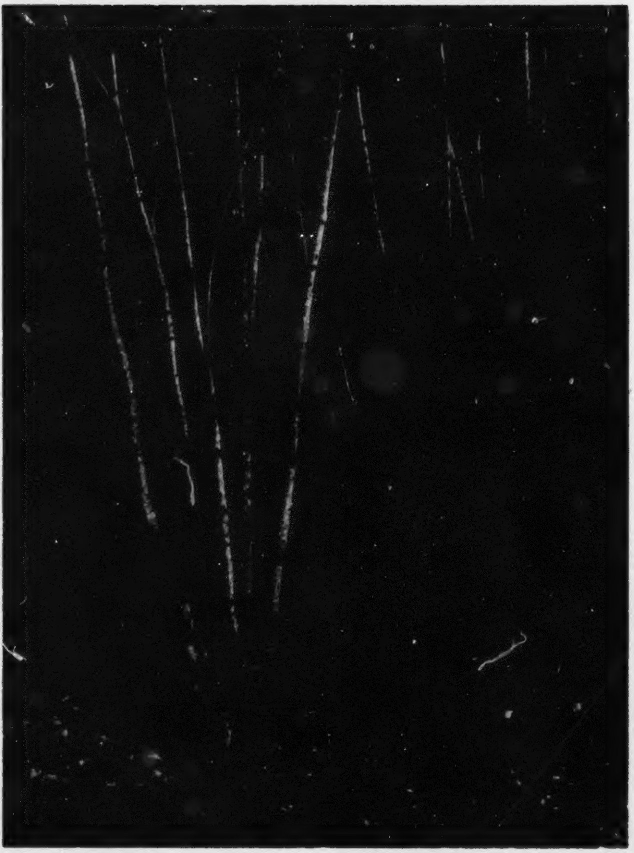
I think colleges and universities and the University of California have had to change structure and staff to respond to demands for centralized reporting and also to the enforcement procedures going along with that. Thus, the Federal government changes the way the University operates. Also, the nature and purpose of academic institutions is often misunderstood. We can go to Sacramento or Washington to plea for autonomy for the University or for flexibility to deal with an individual situation based on the different structures of campuses. Our motives are immediately viewed with the suspicion that we are really looking for a way to get out of this and we really do not have the intention to comply. It is a constant issue for our representatives in Sacramento and Washington. I think that in this area our attorney association has done a lot to suggest that there are ways of writing regulations when the intention is clear and unambiguous. We have already seen some very slight changes, particularly during the time of the Buckley Amendment, when the regulations were being finalized. There was a whole shift due to the DHEW view that the regulations were beginning to bury the bureaucrats themselves. There was a little change in style there, but I think the hope that all regulations are going to grant to the agency, and to the institution the means of making them applicable is a faint hope.

Also, we have found that enforcement personnel in Federal government and in the State to some extent are relatively new; they are inexperienced in their jobs. They all want to do a good job, but they will never admit a mistake even though it takes six months or a year to try to work around what they have done. In many cases we end up training them ourselves in order to survive.

There are some alternatives. I will touch on a couple of them that are being discussed. NACUA, the National Association of College and University Attorneys, has taken the position that each regulation must be considered in the context of its effect on the institutions, and that no new regulations should be undertaken without sufficient study to assure that the cure will not be worse than the disease. It takes a lot of time to consult with the universities and colleges and sometimes Congress and Federal agencies are not too patient. But we are impressing upon them that consultation and discussion does have an impact. It also has been suggested that we need the equivalent of an environmental impact statement prior to any nation-wide implementation of new regulations to determine the cost and the effectiveness and the value of the regulations.

Cost considerations are another area where some alternatives have been suggested. The cost of compliance with Federal regulations is tremendous. The University itself spends well in excess of one million dollars annually to comply with regulations only marginally related to the central purposes of education. Examples include Occupational Health and Safety, Environmental Protection, and Affirmative Action. Many other areas are involved, particularly privacy areas issues which have recently occurred. It is suggested that the cost of compliance should be borne by Federal funds, perhaps through some incentive system. Such a system might eliminate the need for large, costly, overlapping Federal bureaucracies. Unfortunately, these comments, as far as regulations are concerned, must end on a sour note.

With experience as our guide, it shows us that there will not be any dramatic reform of Federal regulatory agencies in the near future. Managers in tomorrow's university can expect continued reorganization of agencies and further complicated amendments of already complicated regulations.



MANAGEMENT INFORMATION SYSTEMS

INFORMATION SYSTEMS

Bernard Sisco

A year ago the Administrative Information Systems Task Force submitted a report to the President of the University. The Task Force was created because the President was concerned about making a large investment in more central computers until he understood what they were going to be used for. I served on this Task Force and with my colleagues we tried to get some feel for what the problems were in the University in the whole area of information and management.

If any of you were involved in speaking to that Task Force or were on the fringes of some of its deliberations, you will know that it asked questions some people thought were not quite relevant to the subject, such as how were we really managing the University, what problems there were between Systemwide Administration and the campuses, or between the campuses and the departments. A lot of people said, "What does that have to do with information systems and computers? Well, it has a lot to do with information systems. Information systems are tools that help operate and manage the institution. If the institution does not have a clear picture of what its management philosophy is and how it wants to manage itself, then no system in the world is going to solve the problems for it. As a matter of fact, systems will not solve the problems anyway; it takes people to solve problems.

The Task Force report did recommend some significant changes in the University's policy on information systems. It recommended that we examine the need for information, that we determine what was needed, why it was needed, where it was needed, and then try to determine what would be the best way to provide the information at whatever level it is needed. There were people who immediately read into that report what they wanted to read into it. Some people said, "That is what we doing now--nothing is going to change." Then there were other people who said, "That is not what we are doing now, but everything is going to change." I think that both were wrong. I think some things we have been doing are valid, and some things are not very valid; but some people immediately jump to the conclusion that we were going to decentralize all systems to the campuses; that is, every campus was going to be in business for itself and Systemwide Administration was going to be dissolved. That wasn't quite true either, but I think they may have been partially right. Campuses are going to have to learn to manage their business better, and assume the responsibilities that go with the authority given to operate as semi-autonomous units of the University. Each of the nine campuses are universities in their own right. Probably any of them are larger than most universities. Certainly Berkeley and UCLA are both as large, if not larger than any university in the country. There are some schools and departments on some of the UC campuses that are bigger than most universities.

The question of what the Task Force really meant was probably some of all of the perceptions of the people that read it. Having been a member of the

Task Force, I had some of my own perceptions. I certainly thought that anybody who took the job to implement the Task Force recommendations was either out of his mind or stupid, and I did not think that I was either one. I received a call from the President one day and he said he wanted to talk with me, and I said, "What about?" as if I didn't know. He said, "Would you accept the job of . . ." and I said, "No." I figured he would let it go at that, and then he said, "Why not?" I said, "Because I don't want it." Well, he said, "You have been sitting out there on the campus for five years now and I have been down at Los Angeles and we have both been bitching like hell. It is time somebody did something about it. Put your money where your mouth is." What do you say when the President says, "Put your money where your mouth is?" So I did agree to take two years to try to see if I could implement those very courageous statements that were made in the report. I do not know how many of you actually read the report, but it is in wide circulation. If any of you have not read it, it is available to you, just let me know and we will send you a copy.

It was April 21, 1976, when I came to Berkeley to assume my new role and new responsibilities. I think a lot has happened since then, probably not enough; but I think we have progressed significantly beyond where we were at that time. We did establish a organization after the first month to try to begin to implement each of the recommendations. At the same time we tried to keep the University's existing systems operating until the completion of the recommendations. Those recommendations included an inventory of the existing systems. That was a very simple statement, an inventory of the existing systems. All you have to do is write them down. But it was not quite that easy because nobody really knew what the existing systems were and when we started to inventory them we wanted to describe what was in them, how the data got into them, how the systems operated, and what the information was being used for. Believe it or not, there are thirty-six systems; and we have completed the inventory of only about fifteen of them. It is a tough job and it says something about the way systems develop and their current status, coupled with the lack of knowledge and understanding of what is in them and what they are being used for.

Another recommendation was that we develop a plan for distributing data preparation and editing to the campuses, on the premise that the data originated on the campuses and therefore was the most logical place for the data to be prepared and edited before going into designated systems. That plan was completed and discussed with the Joint Operations Group, which I will talk about in a minute, and the beginning of the implementation of that data preparation plan is well underway now. The other one was something called "A Determination of Needs," or a "Needs Analysis"[1] and the first thought was that we could bring together functional officers from Systemwide Administration on each of the campuses and say, "Okay, what do you have, what do you need, what don't you have, who needs it, and why," and then determine what would be the best way to provide it. That wasn't very easy either, because when we brought the functional officers together they said, "What do you want us to do, what is the needs analysis, and how do we go about it?" So we re-thought that process, and it is under way now.

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[1] Richard West discusses this topic in his article beginning on page 141.

The development of standards was another recommendation. Another area is the question of defining the data elements, or common data definitions, which meant we first had to inventory all of the data elements in all of the systems again, and that was not an easy job. The first inventory of the data elements has been concluded, and we have found a significant number of differences of opinion as to how data is defined between systems and in some cases within systems, in addition to the technical differences. The next step would be to iron out those technical differences, and then the final step would be to iron out the policy differences—and in reading my mail this afternoon I noticed I had a proposal from Information Management providing a process to accomplish just that.

Another recommendation was to develop a mechanism to put all administrative computing services in the University on a strict recharge basis. This is one concern that I have a recommendation from the Task Force on, but I have put it on the shelf for awhile because there is a problem in maintaining the integrity of the existing data processing center, as we start to move work out to the campuses. If you go strictly on a recharge basis, we could very easily find that we would be unable to maintain the existing Data Processing Centers during the phase-out period.

We had hoped that out of the needs analysis would come the ability to develop a conceptual framework of what the information systems of the University really ought to look like, and I think that we are finding that it is taking a lot of time to get that needs analysis completed. Campuses are also having problems in getting people motivated—not only people on the campuses and in the Systemwide Administration, but even the people within the Information Systems and Computing organization. Everyone keeps saying, "Tell us where we are going," and I keep saying that you do not want to jump to conclusions, but let that evolve out of the needs analysis.

A lot of time has gone by and I think that we really need to sit down and try to develop in our own minds what we think the University's information systems are going to look like over some period of time and share that with the University. We need to get it out on the table, see if people can argue with it, see if concepts are right and at least have some framework, some road map to begin with to guide us in the process. We did that once over an extended weekend, holed-up in a hotel in a very unlikely place, and we did come up with the first cut of that conceptual framework and stated it as a hypothesis. We shared it with as broad a group of people throughout the University as we possibly could, the Information Systems Board, which is the governing board for information systems in the university. It is the Joint Operations Group[2]

[2] The creation of the Joint Operations Group was a recommendation of the Administrative Information Systems Task Force. The Group is advisory to me. The Task Force recommended another individual on each campus with the authority to implement for that campus the Information Systems Plan at the University, and with the authority to guide the systems development and operational information system on the campus be appointed by each Chancellor and that individual would then become a member of the Joint Operations Group. It is different for different campuses. In some cases, Vice Chancellors were named, while we have some people who have Information Systems as their sole responsibility, so it is kind of a mixed grup as far as the titles of those individuals are concerned, but their responsibilities are for information systems on the campuses. The Director of Information Management is the convener of the Joint Operations Group.

which brings together all of the campus officers who are responsible for information systems on the campuses, including the Administrative Vice Chancellors, the Academic Vice Chancellors, the Computer Policy Board, and the Council of Chancellors. The Conceptual Framework[3] is now going back to the Information Systems Board for final approval and will be published as an addendum to the Information Systems and Computing Policy of the University, again, as a road map.

Let me move rather quickly, then, into what the Conceptual Framework looks like, because I think that is really important. It assumes the management philosophy of the University to be that the campuses have the responsibility for *operating* the University, while Systemwide Administration has the responsibility to *manage* the University as a single institution.

It has been recognized that most campuses are really large universities on their own. On that basis, how should information flow, and where should it reside? If you start down at the bottom with the transactions—that is where information starts—we have to account for our State funds, and we have to account for our extramural money. Where is it going to take place? It takes place as a result of a series of transactions. We have Payroll, we have Purchasing, we have Student Registration, we have Admissions, and we have Financial Aid.

If these transactions all take place on campus, where should that detailed data reside? The hypothesis is that it ought to reside on the campuses, so we came up with an over-simplified approach as to where you should put those transactions on campus. There is a financial transaction, a student transaction, and for lack of a better term, "other data." These were used and we could have added some other categories, but for the purpose of simplicity, let us delineate those three areas. If we were using modern computer technology, there would probably be data bases. There is a difference between that and the conventional hierarchical file; the data is more accessible in the bases if you want to retrieve it and is independent in those data bases. This information should be accessible to all levels; on the smaller campuses, it may be centralized. Management on the campuses will need to be able to take pieces of those data and bring them together. You need, then, some type of tool to accomplish all this, to get that information out of those buckets, and make it manageable. If a manager of a particular department wants information, he does not want to have to go in and read all of the transactions to be able to bring it together in more manageable pieces.

Systemwide Administration needs information to manage the University and to be able to either get summary or extracts data from the campuses. My first thought was that one really only needs summary data, but when you look at some of the reporting, you will find a need for extract data, particularly in the student areas. You can see this in several ways. Some extracts of the detailed data may be flowing to Systemwide Administration in a limited area so that it can be analyzed and manipulated and reported in several ways. If just summaries are used, you may have more data in summary form because of the different types of external reports that are required.

In Systemwide Administration, the President and Vice President need the same capabilities to analyze the data and make decisions from it, so they need a management data base. We attempted to describe the way the University manages itself, or that it hoped it managed itself. The transactions are recorded on campus; the most detailed information resides on the campus, and there needs to be a mechanism to be able to extract that information, report it to the varying levels of management, and to be able to get the information to the people who need it to make management decisions at the lowest level possible.

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[3] The Conceptual Framework is included in this volume. See page 135.

I want to now talk about the financial system, which is one that is probably the nearest and dearest to your hearts. We have a series of files that remain in Systemwide Administration. We have a master payroll personnel file, which holds all of the excruciating details from every payroll and personnel transaction that takes place in the University. We have a general ledger. We have an accounts payable. We have, for better or worse, an inventory control and equipment control file. We have a storehouse system, which some campuses use and some campuses do not.

This information, gathered for analytical purposes, is called the FAD (Financial Analysis Data) System. There is also the primary system and the transactional system. Basically, there were those three. The others are basically derivatives from these three transactional systems.

How does the information get into this system? Except for Riverside[4] [5], hard copy data coming in from each of the campuses—every personnel form, every voucher, every transaction—gets shipped to either Data Processing Center (DPC) South or Data Processing Center North, and it is here we are a little more sophisticated than we were at one time. They do not key punch them. They are key entered directly onto tapes and put into files. Any listings go back to the campuses to verify what the campuses really meant. Interestingly enough, those transactions are not controlled when they go in there, but the assumption is that when the listings go back, the accounting clerk, and the payroll clerk will check it to make sure that is what they sent up. But from the information I have been able to ascertain those things are probably better described as errors. There is a high degree of error in the data that is key entered. An example, of course, is in the payroll system and I use that term so that maybe you can understand. I will try to explain it. The payroll system is on an autocoder system, a programming language that lies to a computer and tells it that it is a punch card machine. The systems were

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4 Riverside has developed something called DEXPAC and they capture their payroll personnel data. They transmit it on tape, (their accounts payable data), enter it there and recharge. They put their budget allocations in it and wouldn't you know, we get the departmental report. I know that is an over-simplification in the process of correcting a lot of detail. San Diego belatedly got the message and started something quite similar. They have developed something they called DAISY, which does the same thing, different types of personnel payroll forms. They have a Burroughs 6700, a highly interactive machine. They have a plan to input the information in terminals and be able to interact with their data base on a one to one basis because it will continue to feed, unfortunately, the existing master payroll personnel file.

5 For more information on UC Riverside's system see Frank Bailey's article on page 147.

originally designed as punch card systems with all of the limitations of an 80 column card. When we got computers, that information was put on tapes. The problem here is (I am sure all of you know this) that when you prepare a personnel transaction for either a new hire or change in status of any type you have to put *from: to:* on the Change-of-Status Form. You have to list all the information on the *from:* side and put all the information on the *to:* side. There is a reason for that. Because of the way the system is developed, you cannot make a single data element change, you have to take everything out as though you were pulling the card out of the file and put everything back in with the changed item in it. The degree of error is in direct proportion to the number of key strokes. That is one of the problems with the existing system.

What comes back to you too long after the fact is called the General Ledger[6] printout, and it lists all those transactions in detail. We asked the Chief Accountant why we have a General Ledger that has all those transactions. He said, "Because the campuses need it." If the campuses need it, why don't they have their own systems? It is because the system was designed to operate centrally. Those General Ledger printouts come back to you. For the first time, then, you have an opportunity to find out what you *thought* you put in the General Ledger. If the information is in any way wrong, you would have to make an adjustment, so you send it back through. Six weeks later, if you are lucky, it comes back with the adjustment. But maybe it was made wrong. If you are still having problems you might protect yourself by maintaining memorandum records. But you know General Ledger is the official record for the University, so you have to try to balance it.

That is what we have now. Systemwide Administration says, "My gosh, we can't use all that data, we can't make decisions, we can't give the President the General Ledger of the University and ask him to make a decision. We can't give him the master payroll personnel file." We try to extract information from those files and put them into little data bases that we have been running and try to analyze that data in a meaningful fashion.

Decentralization is the first step to creating campus systems. Learn from what is happening at San Diego. Look at their material management base. Look at the other campus cases that are available. Look and see whether we can buy some package systems that will serve these same purposes. The discipline in this effort is that the information which comes out of campus systems must be consistent across the University. The consistency at the point of interface is the price that has to be paid for flexibility. It means that we have to look at our University's chart of accounts in the financial area and make sure that however we describe an account within a campus system, the data is aggregable upward so that it can be consolidated at the Systemwide level. That does not mean that a campus cannot have greater detail than is necessary. It also does not mean that a department that needs to have further breakdowns beyond that which are necessary to the University as a whole cannot expand their numbering structure and their definitions as long as they do not destroy the ability to aggregate the information upward as it leaves the campus. The hope is for greater flexibility to meet the departmental needs, to meet the campus management needs, and to still be able to maintain the integrity of the information as the necessary data flows from the departments to the campuses to the Systemwide Administration.

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[6] The General Ledger GLO 60 is not distributed to departments at UC Riverside. Instead, a DEXPAC Ledger is used.

In three years, central systems hopefully will go away, and we will replace them with corporate management data bases (at the central level), and open retrieval systems on the campuses. Getting the ability to be able to define that level of data is a tough job. Systemwide Administration has in the past. I think, (legitimately in the minds of the people that have done it) felt that they had the responsibility to try to help the campuses operate; and they are not very comfortable (at least yet) in dealing with this process so that if you ask an analyst at Systemwide Administration, "What data do you need?" he will reply, "I need it all because my bosses cannot tell me what information they want yet."

That is one of the responsibilities of Information Management—to help Systemwide Administration define what level and what type of information it needs for management purposes. In order to make this happen, it is going to take one heck of a lot of hard work. It is going to take a lot of work on the part of the campuses. It is going to take understanding on the part of departments within campuses that while there are legitimate management perspectives outside of the department, there has to be some level of consistency within the campus in order to be able to have the flexibility needed at the departmental level. While a department may like its own approach to accounting, if the data is available and correct in a campus data base and is accessible to the department, it may be more economical to use that campus' data base. If it does not serve your purposes and the campus decides that there is a supplementary system needed, the information has to be consistent within the campus and within the University so that you can't call something one thing in one department and another thing in another department so that it cannot be compared.

I guess my take-home message is that the price of flexibility is discipline. There has to be some amount of discipline that we will all have to follow in order to have the flexibility that we need to operate. The implications here as far as the campuses are concerned is that it is going to take resources to be able to develop the systems on the campuses. Hopefully, we can minimize that by sharing, by taking the experience of Riverside and San Diego and other campuses. By the way, those aren't the only two, but they are the two that are most ahead in the financial area. In the student area, Irvine has a beautiful on-line registration system that other campuses need to look at. Santa Barbara has a good registration system. We need to learn from people who have been able to do these things rather than trying to invent the wheel over and over again, nine times. I think we have to recognize that because the campuses are different, management styles are different within the campuses, and there will have to be some modification and flexibility to meet individual needs. That doesn't mean that you replace what appeared to be a constraining structure with chaos, which says that everybody goes off in their own direction and we cannot make any sense out of the University.

I have talked to the Chancellors and I have talked to the Vice Chancellors and to the Joint Operations Group. Systemwide Administration has some resources that will be available as soon as we can phase down the central system. We have already put some systems development capability out on each of the campuses to help get on with this job, and have reduced the systems development staff at Systemwide Administration. Over a period of time we hope to be able to do more of that. The problem is that we are running a foot race with time. We have to keep operating these systems as we progress to where we want to be. There will be some operational funds available to campuses as we reduce the size of the central data processing operational functions.

We have already begun to put data preparation money out on the campuses as each campus is ready to assume more and more of the responsibilities for the actual data preparation. If the campuses do the preparation, we do not have to have a big key entry operation sitting in DPC. There will be some economy, I hope, as far as campus central administration is concerned, as we progress in this direction. As an example, if you have an employee data base, you do not have to prepare a coding sheet in the accounting office to send to DPC with each one of those transactions. This should mean a reduction in clerical time. If you have a purchasing data base with an accounts payable system, you shouldn't have to prepare the coding sheet to go to DPC for each of the accounts payable or purchase transactions.

These funds together with whatever funds we can free up in Systemwide Administration should be available to implement the Conceptual Framework on the campuses. There are people who will say that this is not enough. I think that several campuses who have already moved in this direction have found over time that they were able to find a significant amount of resources. Some of them even took it out of their own hides. I think the most significant savings will take place in the departments with financial information systems. The amount of clerical time that has to be devoted to preparing personnel transactions forms, maintaining manual department records and funds control records are, I think, where the largest savings will take place. I think that we will not even have to take money designated as Instruction and Research (I & R) support funds and move it into Administration. I think we all know the shortage of I & R support funds, and that money is better used to provide test tubes, chemicals, supplies, materials, equipment and technicians to support the instructional research program. This is all going to take time and it is not going to be easy to do. People are doing these jobs, and a lot of people are going to be threatened because they are going to say, "Well, the things that I have been familiar with all of these years are going to change. I understand my manual records. I understand my card file. My job is typing personnel action forms. What are you going to do with me? Obviously, the system will not work. There will be bugs in it." There will be problems and the temptation is going to be to say, "I can't make it balance; I can't understand it." It is going to be tough. Fear of the unknown and fear of change are very, very great inhibitors in terms of progress. Peter Lewis said this afternoon that probably one of the biggest problems people have to overcome is fear, and I think we all fear something.

In a nutshell, that is what the conceptual design supposes. It supposes that campuses have responsibilities for operations and making their own transactions, data preparation entries, and analysis of the data as well as the responsibility to transmit information to Systemwide Administration, selecting information that is necessary for Systemwide decision making. That is the ultimate objective over three years, and it is not going to happen overnight. Over a three year period the goal is to move towards campus self-sufficiency. Some campuses will move faster than others. Riverside is already nearly there. Some campuses will have to check their priorities in one area or another. It isn't just the financial system; there are student systems, and there are analytical systems, all of which are needed to manage the campuses. Each campus has been asked to determine its own needs, determine its own priorities, the speed of which it can move in this direction, and the resources that it will require to come up with a plan to implement this concept. As we move in that direction, (we have already started in the payroll personnel area) I think that we are going to have to test the validity of this concept. It may change. It may have to be modified. If there are problems and the concept has to be modified, we will modify it. If the transactions that cause those problems have to be modified, they may have to be modified. The only thing I think we can not do is destroy the concept and not replace it. If we do that, we will never get there and we will have headaches.

I have tried to tell you where we have come in the past year, and where we hope we are going over the next three years. There will be continual change, and I hope progress each year of the three, but our objective is to have the Conceptual Framework implemented in three years. Richard West will be discussing with you the Systemwide campus planning process, which I hope will convince you that progress will be made continuously during the next three year period in information systems management.

A CONCEPTUAL FRAMEWORK FOR A UNIVERSITY INFORMATION SYSTEMS PLAN[1]

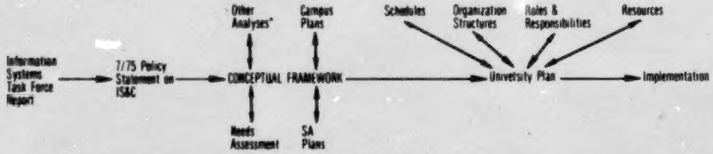
BACKGROUND

The Administrative Information Systems Task Force Report, published in April, 1976 urged, as one of its recommendations, the development of "a University Information Systems Plan to meet needs for information." Since its formation in May, 1976, the Information Systems and Computing organization of Systemwide Administration has been proceeding with the comprehensive study and planning process that is required. Specifically, the effort involves the identification and understanding of University Information Systems. In addition, the fundamental step of assessing information needs on the campuses and Systemwide Administration has begun.

The efforts to date have indicated the need for greater clarity with regard to the product of the planning process. This policy statement incorporates a conceptual framework for an integrated University Information Systems plan and is intended to provide such clarity and, together with subsequent refinements:

- to provide an immediate point of departure for the development of a total University Information Systems plan;
- to serve as a guide which the campuses and Systemwide can use to apply the results of the needs assessment process and other analyses to the development of their plan;
- to illustrate a mechanism for developing self-sufficiency of campus information systems in a disciplined, yet flexible manner determined by the campus within external and University-wide constraints;
- to provide sufficient definition from which organization, staffing, resources, and implementation plans can be developed.

The following diagram is a general representation of the relationships between the various planning functions and the conceptual framework defined herein:


Other Analyses*
Campus Plans
Schedules
Organization Structures
Roles & Responsibilities
Resources
Information Systems Task Force Report
7/75 Policy Statement on ISAC
CONCEPTUAL FRAMEWORK
University Plan
Implementation
Needs Assessment
SA Plans

**Task Forces concerning Payroll/Personnel, Data Definition, Standards, Re-charge, Data Preparation, etc.*

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[1] This material is taken from a special issue of the newsletter *Interface* dated April, 1977, published by the Office of the Special Assistant to the President—Information Systems and Computing, University of California Systemwide Administration.

ASSUMPTIONS

This conceptual framework is based upon a number of assumptions. The predominant assumption is that those charged with responsibility for University functions will have the corresponding authority to carry out those functions.

Specifically, responsibility for campus operations resides at the campus level, while Systemwide Administration is responsible for all corrorate functions of the University, as well as for its own internal operations. Examples of functions and duties that reflect this pattern are as follows:

Campus Operations

Student support functions such as registration, housing, counseling, student health; academic functions such as instruction, research, public service; administrative functions such as budgeting, accounting, personnel management, and business services, as well as general management of the campus.

Systemwide Administration Operations

Collection of student loans, UC Press, University of California Retirement System, Treasurer, internal Systemwide management.

Systemwide Administration Corporate Functions

Overall University policy and planning, acquisition and allocation of resources, monitoring performance, and the utilization of resources.

In accordance with the functional patterns noted above, campuses are responsible for information systems that support their operations and Systemwide Administration is responsible for information systems that support its operational component. Systemwide Administration is also responsible for information systems that support University corporate functions and for assuring the compatibility of campus and corporate level systems.

It is also assumed that the resources necessary to implement the conceptual framework will be available from existing campus and Systemwide administrative sources. Campuses may not have sufficient resources within current administrative information systems expenditures, and savings from improved system services may have to be redirected to supporting systems development and operation. Also, extensive sharing and use of proprietary packages will have to be carefully considered. However, each campus and Systemwide Administration plan will deal in detail with the resource implications of its implementation and operation.

CONCEPTUAL FRAMEWORK

The illlustration on page 132 depicts the functional relationships and information flow between campus operations and Systemwide Administration operations and corporate activities based upon the use of data, information, and information reporting systems. Although the types of data are shown as distinct groups in the diagram, the diagram is not intended to restrict possible combinations of data nor the technical design of any systems which might contain such data.

Campuses and Systemwide Administration operational support is portrayed under B on page 132. Systemwide Administration corporate support is depicted under A.

Campus and Systemwide operational activity that will flow into and be used by information systems forming a portion of each major category are:

Financial

Purchasing, Accounts Payable, Payroll, Equipment Inventory, Contracts and Grants, University of California Retirement System, Personnel, Storehouse, Business Services, etc.

Student

Graduate Admissions, Undergraduate Admissions, Registration, Financial Aids, etc.

Facilities

Facilities information, Building Index, Facilities Inventory, etc.

Personnel

Staff Personnel Admin., Academic Personnel Admin., Benefits Admin., Affirmative Action, etc.

External Relations

Alumni, Development, Intercollegiate Athletics, Mailing, Governmental Relations, Campus Research, Public Information

Misc. Services

Residence Halls, Food Services, Student Health, etc.

CAMPUS OPERATIONS

The conceptual framework provides for local control and operation of information systems within overall University-wide criteria to assure timely, accurate, and reliable information. Campus management information flows from the financial, student, and facilities systems. Examples of the use of management information are: the support of decision making for resource allocation and utilization, accountability, and monitoring of performance.

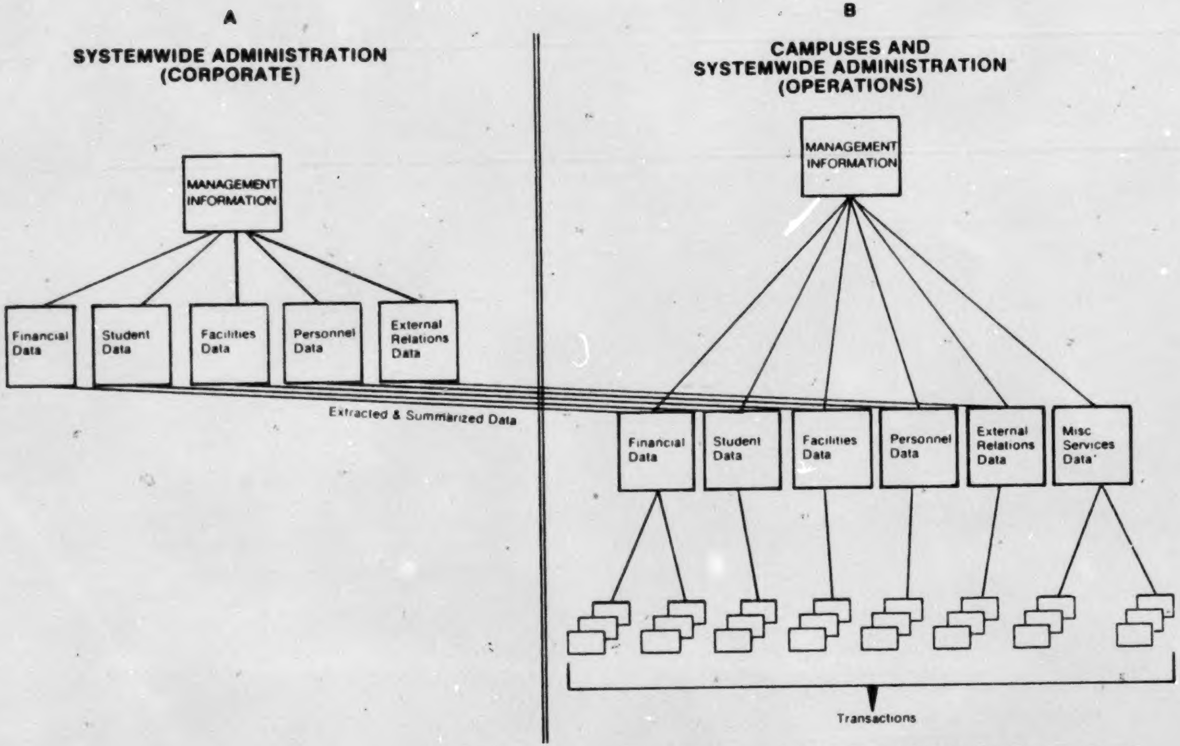
SYSTEMWIDE ADMINISTRATION OPERATIONS AND CORPORATE FUNCTIONS

Systemwide Administration corporate information needs are provided for in the flow from campuses and Systemwide operational support systems. Management information flows from the financial, student, and facilities systems. Examples of the use of management information are: the support of decision making for resource acquisition and allocation, external reporting, accountability, and monitoring of performance.

FEASIBILITY

The conceptual framework is functionally feasible and it will operate successfully with the following minimum fixed requirements:

- common definitions of data at points where information crosses functional and/or organizational lines (to assure comparability). For


A
SYSTEMWIDE ADMINISTRATION (CORPORATE)
MANAGEMENT INFORMATION
Financial Data
Student Data
Facilities Data
Personnel Data
External Relations Data
Extracted & Summarized Data
B
CAMPUSES AND SYSTEMWIDE ADMINISTRATION (OPERATIONS)
MANAGEMENT INFORMATION
Financial Data
Student Data
Facilities Data
Personnel Data
External Relations Data
Misc Services Data*
Transactions

*These data may not be required at Systemwide Administration.

example, this will include a uniform definition of certain terms in student systems such as freshman, undergraduate/graduate. The review of these data definitions will be made by the campuses with final decision to be made by Systemwide Administration.

- a uniform chart of accounts in the financial system.
- a specification of the frequency and level of data aggregation needed by the corporate information support system.
- proper policies and controls on the access, use, and dissemination of data need to be established.
- local retention of detailed data to support operational systems, audit requirements, and the occasional unanticipated need for detailed information at the corporate level. It must also be recognized that the aggregation of data will not be useful or cost effective in all cases. In some instances it would be more appropriate to collect a subset of detailed data.

The establishment of common data definitions is not a technical issue but a policy and management issue. The process for defining consistent data definitions will be issued after consultation with campuses.

STRATEGY FOR ACHIEVING THE CONCEPTUAL FRAMEWORK

or How We Get THERE From HERE[1]

RELATION TO EXISTING SYSTEMS AND TIMEFRAME FOR ACHIEVEMENT

The charts on pages 137 through 139 and accompanying narrative illustrate the manner in which existing systems will evolve over time into the overall conceptual framework set forth in this paper. The charts illustrate the manner in which a typical system will ultimately operate within the general conceptual framework. The narrative describes the process for achieving this objective.

These examples are in the nature of a hypothesis, which is meant to be tested at each step of the process. This procedure will permit the validity of the concept to be proven, or the activities or the concept to be adjusted as necessary to assure successful implementation of the overall University plan.

For the illustrated systems conceptual designs shown on page 137 through 139, an assumption is made that existing central systems will continue to operate until the parts that make up the systems are developed either by adaptation of existing systems or development of replacement systems. In the conceptual design, all systems which support campus operations will operate on the campus. The achievement of the conceptual design will be of a pace consistent with the priorities expressed in the campus and Systemwide plan which result from the needs analysis currently underway. Ultimately all detailed transactional data will reside at the campus level and existing central systems will be replaced by Systemwide corporate data, which will be commonly defined and extracted or summarized from campus systems, as shown in the conceptual design.

ORGANIZATIONAL IMPLICATIONS

The conceptual framework has the following organizational implications:

Responsibility for Plan Definitions and Content Development

Campuses and Systemwide Administration operations and corporate units must assume responsibility for the definition and content development of the following aspects of their plans:

- the pace of information systems development,
- the level of development sophistication,
- the location of systems support processing,
- the development priorities,

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[1] This material is taken from a special issue of the newsletter *Interface* dated April, 1977, published by the Office of the Special Assistant to the President—Information Systems and Computing, University of California Systemwide Administration.

- the mode of development (e.g., local, cooperative, or adaptation of existing UC or outside vendor system),
- the staffing and resource requirements for development, implementation and operations, and
- the transition schedule from existing central systems.
- controls on access and use of data and information systems.

Transition Schedule

The total University Information Systems Plan will be an outgrowth of the ten systems plans of the campuses and Systemwide Administration. Individual plans and the total University plan must specify a transition schedule which assures self-sufficiency within a period of three years. This schedule may include, within the implementation period, acquiring services from existing Systemwide Data Processing Centers, adapting existing University central systems for local operations, adopting other campus systems, completing new systems development either independently or cooperatively, purchasing new package systems, or a combination of these options.

Plan Coordination and Approval Process

These information systems plans will be coordinated through the Information Management Division of Information Systems and Computing in Systemwide Administration, reviewed by the Joint Operations Group, and approved by the Information Systems Board. Approval of the plans will be guided by consideration of the overall University resource requirements, costs, benefits, current capabilities, and implementation schedules.

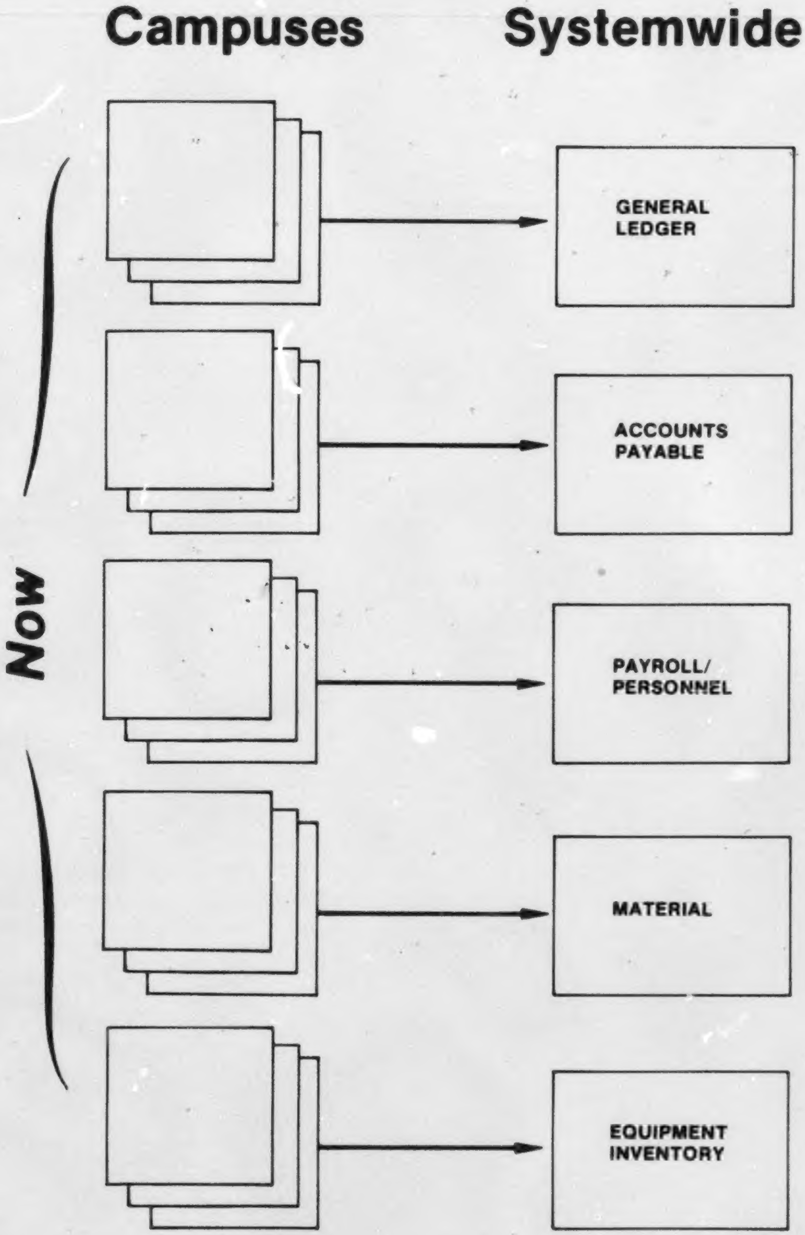
The staff in Information Systems and Computing of Systemwide Administration will be available to assist in these efforts.

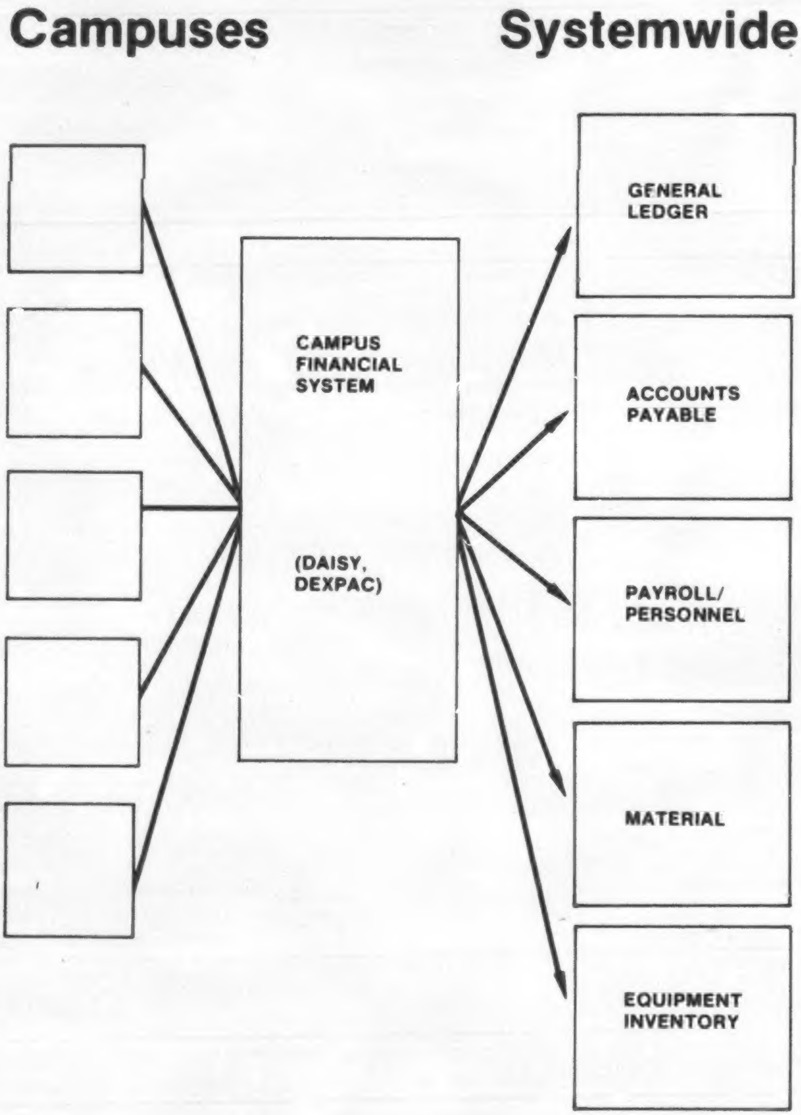
Information Systems Organizational Structures

Successful development and implementation of the University Information Systems Plan will depend heavily upon the organizational structures created within the University to deal specifically with information needs and systems. Although the details of their organizational structures will be determined individually by the respective campuses and Systemwide Administration, to guide development of those structures certain criteria are suggested:

- Provide a strong focus for information systems in the organization.
- To aid the development of plans across functional areas, establish the information systems function reporting to the highest level in the organization.
- Establish an advisory and support group for information systems consisting of a broad functional (user) representation.
- Provide staff sufficient in number and expertise to support the objectives of the organization in the principal planning and decision making processes.

Management officers must recognize that significant policy and organizational issues will be involved; appropriate officers with authority must implement change in these areas if information systems are to be effective.


Campuses
Systemwide
Now
GENERAL LEDGER
ACCOUNTS PAYABLE
PAYROLL/ PERSONNEL
MATERIAL
EQUIPMENT INVENTORY


Campuses
Systemwide
CAMPUS FINANCIAL SYSTEM
(DAISY, DEXPAC)
GENERAL LEDGER
ACCOUNTS PAYABLE
PAYROLL/ PERSONNEL
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EQUIPMENT INVENTORY

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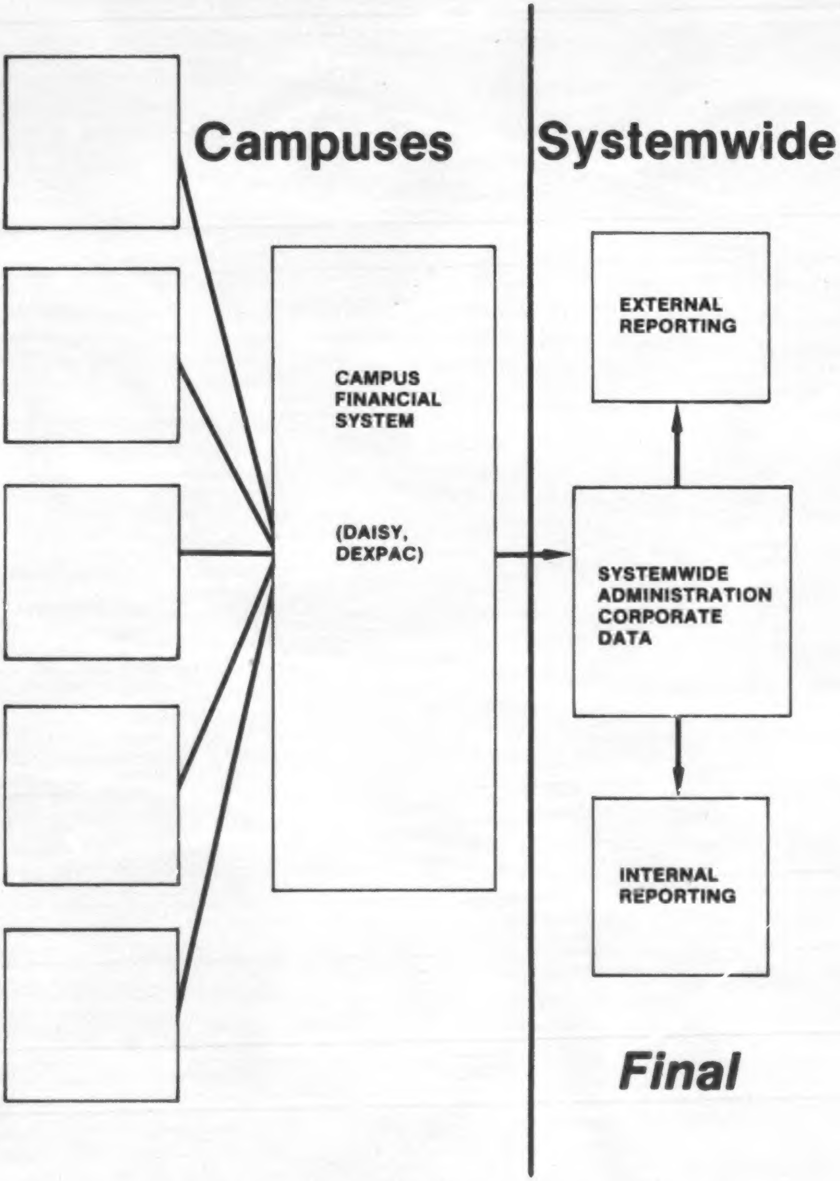
Campuses
Systemwide
CAMPUS FINANCIAL SYSTEM
(DAISY, DEXPAC)
EXTERNAL REPORTING
SYSTEMWIDE ADMINISTRATION CORPORATE DATA
INTERNAL REPORTING
Final

INFORMATION MANAGEMENT—NEEDS ASSESSMENT

Richard West

I am going to elaborate on the needs assessment planning activities we are now going through. I want to emphasize the role of the user. There are many different users. You are certainly users, and there are Systemwide users of the same information.

Let me start by giving my biases about the data processing industry. The industry is only 25-30 years old and has a lot of characteristics which create problems. It is a very technical field which changes very rapidly, and the technological changes are amazing. I feel that we have figured out how to manage the current technology about ten years too late. Right now we have probably just figured out how to manage a large batch-oriented centrally operated system, when the current trend in the technical field is, of course, to have a very small mini-computer type capability. I think the major factor in the technological change that we have seen in the last few years is the miniaturization of the hardware; the capability to deliver much more data processing power for the same amount of money. This change has also created a change in the management styles in data processing. In the past, the focus has been on the hardware because it is the capital good and the major cost. With reductions in hardware costs, we will need to change our approach to managing this new technology. Information is the critical resource emphasized by the Administrative Information Systems Task Force. The moral is that the technological changes require new management approaches to manage information.

Another major problem is communication between user and technician. Because it is a technological field, and because it is an immature industry, the mechanisms have not yet evolved to manage the communication of needs between user and technician. We can also see this need for communication in other technical fields. If it is in building, architects and engineers have contractors to translate specifications into the completed building. It has just been that in the data processing area we have not figured out how to do the same thing as well. We have separated the user, who understands his own function and his needs for information, from the people who actually do the technical work.

I think it becomes particularly complicated when we start looking at information which has not one but many users. As I said before, there are different levels of user: immediate users, campus management, and Systemwide management. They all have different perspectives on how that information should be used and how it should be defined. When you try to bring these perspectives together, it is no wonder why we usually have confusion and misunderstanding.

Another major problem in the data processing field is the credibility problem; there have been too few successes. There are a lot of reasons for this. Part of it is that we haven't quite figured out how to manage the process; but I spent several intensive days working with campus representatives, outlining a suggested approach to needs assessment, as well as the theories upon which we wanted to base our approach. We recommended a basic interview approach, which is one of several approaches currently used in data processing. We provided suggested questions and gave some tools for analysis, including some now rather infamous charts.

The intent was that our proposal would be an example of an approach. One of the theoretical bases of this is that campuses or organizations are at different stages of sophistication and development with respect to systems development. As you become more familiar with a technology, you get better at what you are doing. Recognizing that the campuses are at different places on that learning curve, we realized the campuses would modify this approach, making it apply to their needs. Some campuses took a rather formal approach, some have modified it substantially.

An example of the kind of questions needs assessment asked was, "What type of student data do departments need from the Registrar or Financial Aids Office?" Before I became involved in Information Systems and Computing, I was the Program Officer for Financial Aid in Systemwide Administration. I worked with financial aid officers on each campus. From discussion with some of you at this Conference, there appears to be the need for financial aid information, which should be available on campus. To me that says that someone hasn't been asking what the *campus* requirements for financial aid information are. The purpose of the needs assessment is to develop some overview of the campus information flow; develop some conceptual framework, and, as Bernard Sisco mentioned, to give you some idea of how your campus is operating, where should it be and how it can be better. It can also help you determine priorities, or at least identify those areas where you do not have the capability now, where you are strong enough to get by for a few more years, and/or where you need to improve certain capabilities.

The purpose of the overall planning effort is several fold. One aspect is that we have a problem which is similar to the problem facing the libraries in the University, where restrictions have been placed on the University by external state agencies, and we are falling farther and farther behind the current technology. The external agencies say that we cannot modernize operations until we have some kind of persuasive plan. So one reason for a plan is an accountability factor for our external agents. Other factors are that the University does not have good knowledge of what it is spending for administrative data processing. The Task Force Report made several estimates. The planning effort is designed to help to identify these costs more explicitly and to assure that when the priorities for information within the University are identified, we can show that we do have some mechanism, either established or developing, on the campuses to allow the information to flow. Finally, planning helps campuses determine the best combination of systems to serve the campus overall, including reducing redundant data collection.

Those are the kinds of problems we are trying to face when we do needs assessment. I do not want to paint a rosy picture because there are some feel we can find some approach that can point us in the direction we are trying to achieve.

I think the main problem may be that we haven't opened up the black box, that is, we have kept the technicians isolated from the users. We try to say that we understand your needs, then we go away, design something, and come back with something that hopefully meets those requirements. I think because people haven't understood the problems that were encountered in data processing is, perhaps, part of our credibility problem. We haven't tried to make it an open enough process, we haven't tried to share how we set priorities, and we haven't tried to share how we use resources. Also, we haven't tried to share with users the project management responsibility.

The improvement of the technical-user communication is one role of Information Management. In Systemwide Administration it is Information Management's role to help corporate managers define the data required to perform their corporate function.

Another responsibility of Information Management is to try to resolve data definition differences so that we can have data which consistently flows across organizational lines. It does not sound like a major problem, but if you talk about a freshman, for example, "freshman" carries a different meaning for a Registrar than it does to an Admissions Officer and yet both use the term. And when one gives the other the data on freshmen it will not agree because they are not keeping their books in the same way.

Let me give you some idea of why we think needs assessment and planning is important. I think it is helpful to view the Administrative Information Systems Task Force Report in context. That report came after several years of heavy centralization in data processing within the University. This centralization was probably not a bad technological decision in the mid-60's, when we designed the systems we now have, because it was the kind of hardware we had to work with then. It was the economics of scale to have large centralized systems. Because of that, we fell into the trap of having the hardware define the needs. In other words, because we had large central systems, we had hard copy forms and documents flow back and forth to the data processing system, creating tremendous problems that really made the systems operationally useless. We have seen a lot of bootleg systems beginning to develop on the campuses in the more recent years, but even so the use of 1960's technology has really created a barrier to improving our information management capabilities in the University.

I think the Task Force Report reflects a reaction to the period of heavy hardware centralization; almost an over-reaction to the feeling that the hardware was defining their problems. In other words, we were being restricted by the hardware. We have to step back and say specifically what we need.

Several of the Task Force members said to me that they wanted the University to start with a clean slate and state requirements from a management and operational perspective. Based on that recommendation we started the needs assessment. In the past, we have tried a work group approach. We found it really didn't work, since most people didn't understand what we were trying to do, as we had not stated clearly our direction, or desired results. Next, we problems we have found in just trying to do the needs assessment. It is very difficult to ask people what they want and to try to come up with some specific requirements. Also, just by the fact of asking people what they want creates expectations, which adds fuel to the problem of credibility of data processing. I have found that you cannot help but create false expectations when you simply ask questions. Even when one understands and communicates what is needed, the systems cannot be developed for two years so it doesn't really help you. It doesn't help you and it doesn't help us on the other side. I think that is part of the problem I see with the needs assessment approach; but I think in some cases we find it very helpful at the systemwide level, and, as we can now see some of the campuses completing that effort, we will be getting a better reading of how helpful it really is to the campuses.

Let me just cover one more thing that I think is important because it combines several of my philosophies. One is the role of the user, and the other is how I view the planning that can help you plan a stronger role as the user. There are two things about a plan that we probably have not really used very effectively in the University. One is that we did have a University Information Systems Plan many years ago. It was never updated. It was unrealistic as most plans are, and as maybe most plans should be. The efforts that were followed were never evaluated in the context of what actually was done and then measured against the plan. I think that one of the things the Task Force recognized is that you have to have periodic updating of the plan and an ongoing planning effort. The point is planners really do not plan; they help others plan. And, if you do not have participation in that planning process, it is pretty meaningless. Also, we shouldn't try to have the plan predict the future. It is to help us prepare for it; it doesn't tell us exactly how it is going to be, but directs our efforts in attaining an agreed upon objective.

To be effective, the planning process must be an open one. You need participation by people at all levels of the organization, and you obtain that through various user groups, through participation, and through open priority setting. It is one of the responsibilities of the user to get involved in that process and to manage the systems development effort. What are the alternatives for a given problem? Once we have agreed on a priority, say, registration, we have to develop milestone points of review so that we can make sure we have a successful product at the end. I think the user has the major responsibility to evaluate the alternatives presented.

I think that is where you really end up. If you are a good user, then you have a thorough understanding of the problem, and do not try to create the solution, but rather evaluate the solution. One manages the process; but does not try to design the systems.

Finally, I think that we have already put resources out on the campuses for certain functions. We hope to allow more resources to be allocated to campuses. Our major obstacle right now in creating more resources is the operation of the systems that we currently have, the existing central systems. We really have resources tied up in those areas for maintenance and for operation. The sooner campuses can demonstrate to us through the planning effort what their priorities are, and what areas they are going to be addressing, the sooner we can close-off systems in that area and free additional resources for use on campuses.

Also, we want to look as an example to those campuses who have already developed certain systems, such as Riverside and San Diego. There resources can be achieved through internal reallocation, due to savings created by a data processing system.

The Conceptual Framework states that the three year time frame is the goal to have campuses assume the responsibility for the management of the systems which support operations. With the payroll project we are developing a new system and putting it on the campuses for enhancement. With some systems, and we have done it with Financial Aid at Riverside, we took the existing central system and put it on the campus. If the campus feels that is a viable option for them, we will do everything we can to help put the system on the campus. Also, campuses can develop new systems which replace existing central systems. We believe there are lots of models in the University for systems in various areas. I know this is already happening. DEXPAC[1] has been shared with other campuses. The Irvine registration system has also created a lot of interest on other campuses.

The possibility of sharing systems developed on other campuses depends a lot on your own applications. We think there is a good potential for sharing and I know that DEXPAC is being examined by the College of Engineering at UCLA.

DEXPAC is really the only campus-wide model that we have centralized in an Accounting Department. We think campus management should seriously consider similar systems but there are obstacles involved in doing that. Although I said that we should not be driven by the hardware consideration, it does become a real factor in transferring systems because campuses have differences in the hardware that they use. A system designed for Riverside may not work in Irvine or San Diego or Davis. Nevertheless, we think there is a lot of opportunity for sharing.

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[1] DEXPAC is discussed in Frank Bailey's article beginning on page 147.

ONE CAMPUS' APPROACH

Frank Bailey

The title of this conference is "Managing Tomorrow's University." Yesterday, John Stanford said that a university is not evaluated on its accounting system. I agree with him. The purpose of a university is not to develop great accounting systems. However, he did make another statement that good accountability and good administration are compatible with good education. It is our responsibility to make sure that the monies are accounted for, and unless your campus is different from our campus, you are not getting any more support money now than you did five years ago. The fact is, money is losing its value because of inflation, so we have to manage it a little bit better. In order to do that, one needs meaningful and timely data. This is where we should become involved, as far as I am concerned, with the development of general data preparation on campus and the data files.

For the past eight years Riverside (and I would say probably San Diego and Santa Barbara primarily), has been saying that common systems for the University of California will not work and that it is not the way to go. On our campus we have developed systems, and we have had problems and frustrations in implementing some of those systems. I do not know how it would be possible to develop a single system for nine unique campuses. However, if it were possible, you would have to do one thing; that is, put many, many options into those common systems so that each campus could develop and design the system to suit the needs of their particular campus.

UCLA is not a Riverside nor is Berkeley an Irvine. We cannot consider them equal, which was one of the things that Riverside said when it decided to develop DEXPAC.[1] You cannot design one system to satisfy all departments on the campus, but you can give them options. Why did we develop a departmental expense accounting system? One of the reasons was a request from several departments to our then Vice Chancellor—Business and Finance. They said, "Get us out of the manual accounting business, get us out of what we are doing, we do not have time to do it, and besides, we are out here to educate students, not to do manual accounting, not to do all this bookwork that we are bound to." It was in response to the departments' needs and requests that we started to design this system.

We wanted to generate meaningful and timely information which the

[1] DEXPAC is the computer assisted management information system which has been developed at the University of California—Riverside (UCR). Frank Bailey, who was Accounting Officer at the time the system was begun, was instrumental in designing and implementing this program.

departments could use. We started the program in 1968.[2] The first phase of DEXPAC was implemented in 1969 and the full system became operational on July 1, 1972. DEXPAC is now better than five years old as an operating system. There are four sub-systems to DEXPAC. Although we speak of DEXPAC as the total system, the name itself does not represent the total system, which is the Departmental Budget Management System. One sub-system is the accounts table, which converts recording numbers to full accounts/funds/sub-numbers. The second sub-system is the recharge system. The third sub-system is the APOS, the Automatic Purchase Order System, and the fourth sub-system is DEXPAC, which pulls together all of the above sub-systems and picks up all other transactions not already included.

To design and set objectives for a departmental expense system was no different on our campus than it would be on your campus, so let me read some of the objectives and see if they do not fit your campus. *Eliminate manual accounting.* I have an idea that a lot of you are doing manual accounting, mainly because the cut-off for the University ledger could be on March 26 for some service operations, with about a five or six week lag before a ledger comes out. There is no way a department can operate without doing manual accounting if it is going to keep track of its money. We set out to eliminate manual accounting and reduce this time lag in getting the general ledger, providing ledgers and summaries which balance with Systemwide output. In other words, a departmental expense accounting system will not be a total system unless the cumulative totals and balances agree with the official figures put out by the university, which is the GLO60 Ledger, while also having the ability to commit funds mechanically and the option to record estimated liens. Purchase orders should become automatic, firm liens. If you have other liens, requisitions may go to Purchasing, but possibly the order is not placed for some time. If you were doing manual accounting, you would commit the funds in your ledger for, say, pieces of equipment or travel expenses. This can also be accomplished by entering an estimated lien in DEXPAC.

Other objectives include *standardize accounting procedures* such as the recharge form and *establish cost centers* to distribute expenses within your accounts to a project, a person, or a program. In other words, suppose you have a research grant with $500,000. You are going to have five people working on this grant and will be giving each individual $100,000. One of the things that you need to know and should be able to do is to assign cost centers, breaking the account down by individuals. That way, as the expenses, payroll, and recharges come through on the different cost centers, you can see the amount each individual is spending.

Those are some of the objectives. As I stated before, you cannot develop a system that would fit all departments anymore than it would fit all nine campuses. On our campus, you cannot say that the Plant Pathology and

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[2] DEXPAC was not developed by one individual. There have been many people involved in DEXPAC. The departments on our campus had much to do with the development of DEXPAC as did Jim Henshaw, Director of the Computing Center, Uel Murphy, Materiel Manager, Laurene McCall, Systems Analyst. No one person can do the job alone.

Chemistry Departments operate like Studio Art or Dance. Plant Pathology and Chemistry have research, a lot of accounts, and a completely different set of problems in trying to control their funds than do either Studio Art or Dance, which do not have research. This is why I was saying earlier that if you are talking about common systems, you have to have many options available so that the departments can design the accounting system to fit their special needs. You cannot tell the Dance Department that they must use cost centers; they have to feel that they have the freedom to design their own special accounting system to meet their own special needs.

You also have to give your departments the option of getting their ledgers in various frequencies, i.e., weekly, semi-monthly, or monthly. If there are 20 accounts in a department, the department could decide, "I need my 19900 account monthly, but I have one big research account, so I think I should get that account every week because I should watch it pretty closely. And this one I will get semi-monthly," and so on. They can also choose to have the account they have been getting on a monthly basis changed to a weekly basis when they get down toward the end of their grant, to provide better control of the grant expenditures. They also have the option to commit their funds to whatever cost center they need for control of their funds. They can get their payroll data recorded in DEXPAC either in total or in detail and by cost center.

They also have the option in DEXPAC to show the percent of money that has been spent and whether or not to include estimated liens in the balance. When we get our ledger, we have two fund balances, one figure agreeing with the GLO60. The other figure represents the expenses and account balances the department would have if they were keeping manual accounts. In manual accounting expenses and therefore funds are committed before a purchase order is processed. In DEXPAC we can commit these monies and they come out as estimated liens. If, say, a figure of $100 was submitted as an estimate for supplies, the $100 would be an estimated lien. When the purchase order comes through with the total cost it would override the estimated lien and record the correct amount. When the payment is made, it wipes-out the lien.

There are other features in the Automated Purchase Order sub-system which are part of the DEXPAC System and offer many advantages for the Purchasing Department. One advantage is that it eliminates the manual logging of orders and filing or transcribing. The Materiel Manager gets many detailed reports from the system: on buyer activity, vendor activity, and up-to-date vendor performance. In other words, if a vendor tries to sell something to the University, Purchasing Department knows, from information in the reports, that the vendor has been late delivering prior orders. DEXPAC gives the Purchasing Department a real source of information to work with their vendors and employees.

The question thus becomes, where is DEXPAC today? DEXPAC is a complete system, a total operating system. Every account that is in the GLO60 is in DEXPAC, including the balance sheet accounts, the income and expense accounts, and the plant accounts. For example, when monies are allocated to the GLO60 Plant accounts, they are allocated only to a sub-nine. The expenses go into the various subs, (1, 2, 3, 6, 7, 8) but not the allocations. In DEXPAC, we allocate the money to the sub accounts in which the money is spent. Money is then spent against the funds that have been allocated. It gives a much clearer picture of your budget.

As I have told you, we can use cost centers for distribution of expenses on either supplies and expenses or payroll. Right now about 40% of the departments on the Riverside campus are using cost centers, not necessarily supply expenses *and* payroll, but payroll *or* supplies and expenses. And about 40% of the departments on the campus are using cost centers to distribute their payroll.

Once again, I have to say that there may be some instances where the department may be doing some manual accounting, but basically about 115 out of 130 departments on campus have eliminated manual accounting. We offer many workshops and training sessions in this area, which is one thing that you will have to do if you go into departmental expense accounting on your campuses. You have to train new people coming on campus as well as those who have been on campus resisting change but who now realize the advantages of this system. Recently at these training sessions and workshops we are finding that at each one we pick up about six or eight more departments starting to use cost centers and the DEXPAC.

We do not now distribute the General Ledger GLO60 on our campus, since the campus uses DEXPAC. My Accounting Office kept after me for three years to stop sending out the GLO60 and for three years I refused to do it because I was not satisfied that we were ready to stop sending it out.

Then we made a survey on campus and said to the campus departments, "Can you do without the GLO60?" Well, some of them did not want to do without it, but basically most of them said, "Yes, we can do without it but we have some problems. There are two things that we need before we can do without the GLO60. First of all, we have to be sure that all of the accounts in the GLO60 are in DEXPAC. Secondly, we feel we can read the balances in GLO60 easier than we can read them in DEXPAC." (DEXPAC has more detail than the GLO60 because some of the recharges and liens are consolidated when transferred from the DEXPAC.) Since we feed the GLO60 from DEXPAC, if it isn't in the DEXPAC, it isn't in the GLO60. But they said, "We can't read it, we can't find our balances as easily in DEXPAC as we can in GLO60." Therefore, we developed a small program and produced a DEX 470 Subsidiary Ledger which ended up being a one line summary. Now, departments can have all their balances on a one line summary by account and that seems to answer the problem.

These are some of the systems that we currently do: accounts payable, general ledger, financial aid, employee information systems, undergraduate admissions, building and grounds, storehouse, contracts and grants, fleet management, S & I retrievals, mailing lists, residence halls, University Extension, telephones, parking, and we are currently working on a couple of other systems, an Employee Information System, and an equipment management inventory system.

We are constantly trying to improve and change. To give you an idea of what we are doing on our campus as far as management information is concerned, I have just mentioned some of the systems that we do have on our campus. I might also say that we are doing 90% of all data preparation on our campus, and next month we will be doing the data preparation for the student registration system. Therefore, in about a month from now we will be doing virtually 100% of all data preparation on our campus, and we will have all the information necessary to operate the campus *on* campus.

Richard West was saying that we set up the Financial Aid System on the Riverside campus. The first time that we ran the Financial Aid System data through the computer, we had a 38% rejection rate. We now validate and edit locally on the same lists that DPC South was validating. By having this information on the Riverside campus we have overnight turn-around. If we have an error, we put it right back in and correct it. We are now down to a 2% rejection rate, compared with the 38% that we started out with. To give you an idea of the advantages, the Financial Aid Office claims it can eliminate 2 to 3 FTE because of the reduction in work in not having to reprocess rejects. The other system that I mentioned we are working on is our Employee Information System (EIS). I have some forms which we use in this system. One is an employee status sheet, a form we use to input cost centers on payroll. I have another form, the UCR timesheet, which shows how we handle employee's time, hourly time, vacation and sick leave. In the EIS we automatically accrue vacation and sick leave in the computer. The departments report to the computer the amount of vacation and sick leave time taken and the amount of overtime. Also, at the end of the month, we give each employee a report which shows the employee's balance of accrued vacation, sick leave, and overtime. At the bottom it says, "The above vacation, sick leave, and compensatory time computation and balance is subject to review and acceptance by the employee within 15 days of the issuance of this record. If no adjustment request is tendered within 15 days, the new balances are deemed official subject only to substantiating circumstances. The employee signature on the return copy implies acceptance."

In addition to keeping track of the employee's accrued vacation, sick leave, and overtime, the EIS also provides all of the affirmative action recording information. Everything that is needed for affirmative action reports is included in the EIS. The Staff Personnel Office, the Academic Personnel Office, and the Affirmative Action Officer all get reports from the computer for their affirmative action information.

Bernard Sisco was talking about a Personnel Action Form (PAF) on which you draw a line through the information to be changed and enter the new information, instead of making out a Change of Status Form. You send it to the Computing Center and they key punch the new information and send back a new PAF. We have nine or ten campus departments on the PAF pilot, covering approximately 700 employees. The PAF's go to the departments to enter the information. They correct the PAF with updated information, and it is then returned to the Computing Center to be matched to the master payroll personnel file. There is a lot of information that does not match, and we find that there are a lot of other errors in the master payroll personnel file when we give the departments the opportunity to check the file. We are about to go through with the implementation now. There is a second PAF form, an additional appointment sheet to be used if you have an employee that has more than three appointments. The forms are pilot forms and when we get through with the pilot there may be some adjustments to them.

If you put in a system you are going to save money in three different ways or in one of three ways. One, the system is going to cut down on the amount of help you need and you are going to terminate people. You are going to reduce your FTE. The second way that you might save money is that you can handle more volume with the same number of FTE so you won't have to hire people. And the third way is that you can save time for the people who are working in the department doing manual accounting who could be doing work on other things in the department.

One thing that I want to mention is that when you are talking about systems on campuses and implementing these systems you cannot think only of your department. You cannot just think that *I* am not getting anything out of it or *I* am not saving anything. You cannot feel this way if you are honestly interested in the entire campus. Just for example, I have some figures from the period of FY 68-69 through FY 75-76, which is the seven year period we were working on DEXPAC and the sub-systems. The transactions in the accounting office increased 33.9%. We increased personnel by 0.60 FTE. The volume in the Purchasing Department increased 69%. We have the same number of FTE that we had seven years ago. The EIS, in addition to providing all affirmative action information, also provides historical data on every personnel action automatically, which was formerly manually written down item by item. We are saving one FTE in this area by eliminating the manual work. Year after year we have requested three FTE to do nothing but affirmative action information and with this additional help we questioned being able to accumulate the information. We don't have to hire any additional FTE because the EIS system provides the data.

I talked to you also about the Financial Aid System. Because we have it on campus and because of the turn-around time and reductions of rejects, etc. the Financial Aid Office is talking about two to three less FTE. So you have to think of the whole campus and the total savings. You can't say, "Why worry about the Personnel Department? Savings in Personnel mean nothing to my department." Keep in mind that if Personnel has to comply with State, University, and Federal requirements on affirmative action, they would have to hire three FTE. If the Accounting Office had to hire one or two more FTE or if Purchasing had to increase their staff, where would that money come from?

I made the statement a few minutes ago that implementation of new management information systems just doesn't happen easily. It is a lot of hard work and when you get involved in developing systems and data preparation on your campus, you are going to find that it is very hard work and that there are many frustrations. As I said, the Employee Information System has probably been one of the most difficult systems we have implemented. The reason it is the most difficult is that we are dealing with people's pocketbooks, and not only that, but with accrued vacation and sick leave. When you start keeping track of a casual employee, or a student, who works 20% here, 30% here, 10% here, and 15% there, but who hasn't worked enough in any place to accumulate vacation, you find that by putting all that time together he is entitled to vacation and sick leave. Now, if you were to go back and say to your P.I. that he has an employee who is entitled to vacation pay out of his, the P.I.'s research grant—well, he won't like that.

As an illustration of human behavior in resisting change I would like to mention an incident. We were talking about it not being easy changing the systems. When we put in the recharge system, the Business Manager at that time from the Garage came to me and sat down across the table from me and said, "We are not going to do the recharge system. It does not work in the Garage." I said, "I think we will" and he said, "No, we will not do it in the Garage and I can get support on this campus to get it stopped." I said, "Well, the first thing I want to tell you is do not sit across the desk from me and tell me that you are not going to do it because you are going to do it. Every department is in this and every department will stay in it and you are going to do it." Now, if you want to sit down and discuss the procedure so that you get what you want, that is fine, we'll go that way—so we did. I guess a couple of years later the Fleet Management System came along for the Garage and the same fellow called up Systemwide and said, "We don't want any part of the Fleet Management System. We have a Recharge System that does everything that we want."

Important facts to remember. One of the things, in my opinion, that you have to do on a campus if you are going to get into developing systems is to involve all the departments. They have to be involved, and involved from the very beginning. No one can sit in an office and design a system or systems and go out to the academic departments and say, "Look at the nice system I designed for you, here it is, you do it." It will not work. Unless you get your departments working with you, you might as well forget it.

Another thing that you have to have is a commitment to the management information systems program from your Chancellor and Vice Chancellor. That, I think, is absolutely necessary. The third thing that you have to have is a control person or a control section. There has to be someone controlling the figures that are going into a departmental expense accounting system to keep it right, keep it in balance, and keep the rejects where they should be.

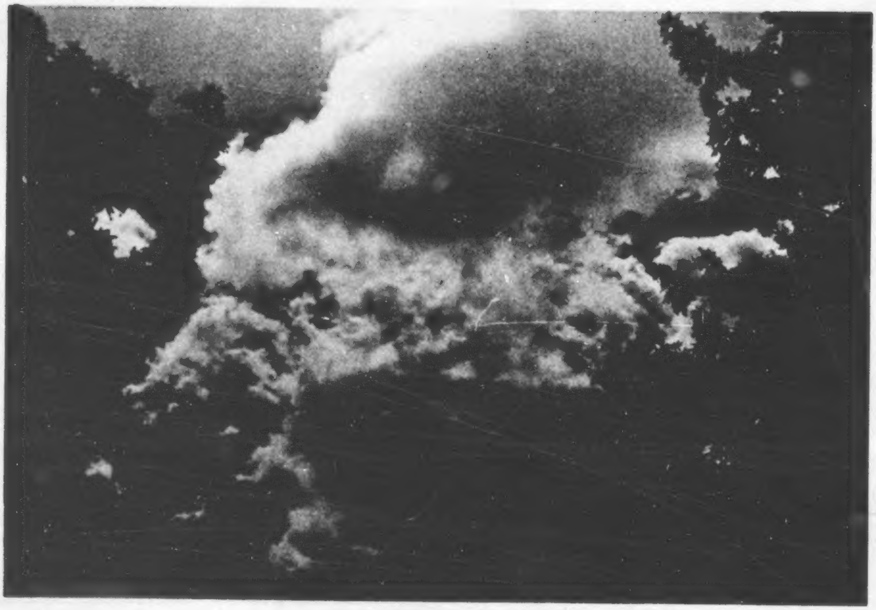
We have had a number of calls from all of your campuses asking about DEXPAC and asking if it could be used on another campus. Actually DEXPAC is a complete system. As I told you before, it ties into the general ledger completely. Ed Cavanaugh at UCLA is talking about putting DEXPAC into the School of Engineering. He has a big school and there are many advantages in implementing a system apart from the total campus. However, to be completely successful you need commitment from Bud Sisco, who can extract data from the PRO 70 payroll information and other common systems. Payroll makes up one of the biggest parts of your expenses. Including payroll is necessary if you are going to come close to producing meaningful data. It is still difficult then, but if the entire campus implements the system, data is available from all functions to give a complete system. It can be done by a college on a campus but then needed information from other areas isn't readily available to include in the system.

I guarantee that Systemwide Administration is not going to solve our campus' problems. Systemwide Administration will not have the personnel to solve the campus' problems. The resources to solve those problems are going to be out on the campuses. That much I will assure you. They will provide technical assistance, but they will not be designing systems for campuses.

I will have to say, though, that in developing DEXPAC, in getting the tapes and the information that we wanted, we worked very closely with Systemwide Information Systems from 1969 right up to date; and I will say that Information Systems has been more than cooperative during that time. Bernard Sisco and his staff are now giving us more information that will really help make our system complete. We have nothing but gratitude for their help.

I invite you to contact me at UCR to learn more about one campus' approach in dealing with management information systems.

MANAGEMENT IN TOMORROW'S UNIVERSITY



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PUTTING IT ALL TOGETHER: INTEGRATIVE THOUGHTS AND ACTIONS IN THE MANAGEMENT OF UNMANAGEABLE SYSTEMS

Fred Massarik

Formal organizations—particularly universities—in some sense confront their managers with the unmanageable. Often, layers upon layers of official and unofficial "ways of doing things" become ossified, and these rigidities (often intially devised for "good ends") must then be interpreted and implemented by human beings with all their frailties and strengths, convictions and uncertainties. While there is much that can be learned from the "hard-nosed"—the computers, algorithms and formal-decision models—that need to deal with the ephemeral and complex aspect of the *whole* human being in the large organization remains a persistent challenge.

The written word typically is a poor substitute for 'real life' in addressing the human concerns of organizations—especially after the face, when a meeting such as ours is but a memory. Whatever we experienced in the brief time that we spent together at the Conference now either has been forgotten, or—in some way—has been made part of our more permanent experience and possibly even of our way of doing things, on the job. Hopefully, we might reflect on some of the issues that were (and are) our concern—as these:

- Let's examine and refine our own special ways for *looking at* the organizational units in which we live and work: beyond the rather sterile "organization charts" there is *our* world, with our unique views of how we fit in, where we differ, and of the forces (hostile or supportive) with which we must contend.

- Our perceptions *can* be fallible . . . though we may seem quite convinced that "we know what we are seeing" (or that "we know what we are doing"), often there are major differences between this and what *others* appear to see and do. We may do well to re-examine just how certain we ought to feel regarding our perceptions and actions . . . e.g. how we *really* understand other people's memos, how we *really* act as supervisors, etc. . . .

- Most organizations, no matter what they profess regarding clarity of procedure, involve *ambiguities.* Often these ambiguities give us "room to move" and some freedom for ourselves; on the other hand, too much ambiguity can endanger effective communication and joint effort.

- It is possible to be both critical *and* supportive of other people and of our organizations. We need to leave ourselves room for openness and honesty (. . . easier said than done) as a basis for bringing about constructive change in relationships, among persons, and among organization units.

- Just because a "regulation" exists, this does not mean that it is either right-for-all-time, nor that it is necessarily "just another bunch of bureaucracy." Our procedures need to be updated consistently, with a view to organizational and individual human welfare, for persons both inside and outside the organization.

- Few aspects of "organizational behavior" can be fully programmed; often (with a view to paradox) the simple is more complex than it seems, and the complex has simple roots. With care and some efforts to balance objectivity and subjectivity, we may find ourselves in a better position to improve our organizations, and ourselves as members.
- . . . and, speaking of improving organizations, we may need to build-in within the day-by-day framework of our activities more creative procedures for opening communication and for becoming both more realistic and more humanistic, rather than assuming that it is principally the "special event" (such as an Academic Business Officer's meeting) that is to be the keystone to the future. Still, . . .

. . . hopefully, the Conference was a beginning . . .